City

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REPORT

of the

SAN FRANCISCO WATER DEPARTMENT

FISCAL YEAR
1955-1956

G. W. PRACY
General Manager and Chief Engineer

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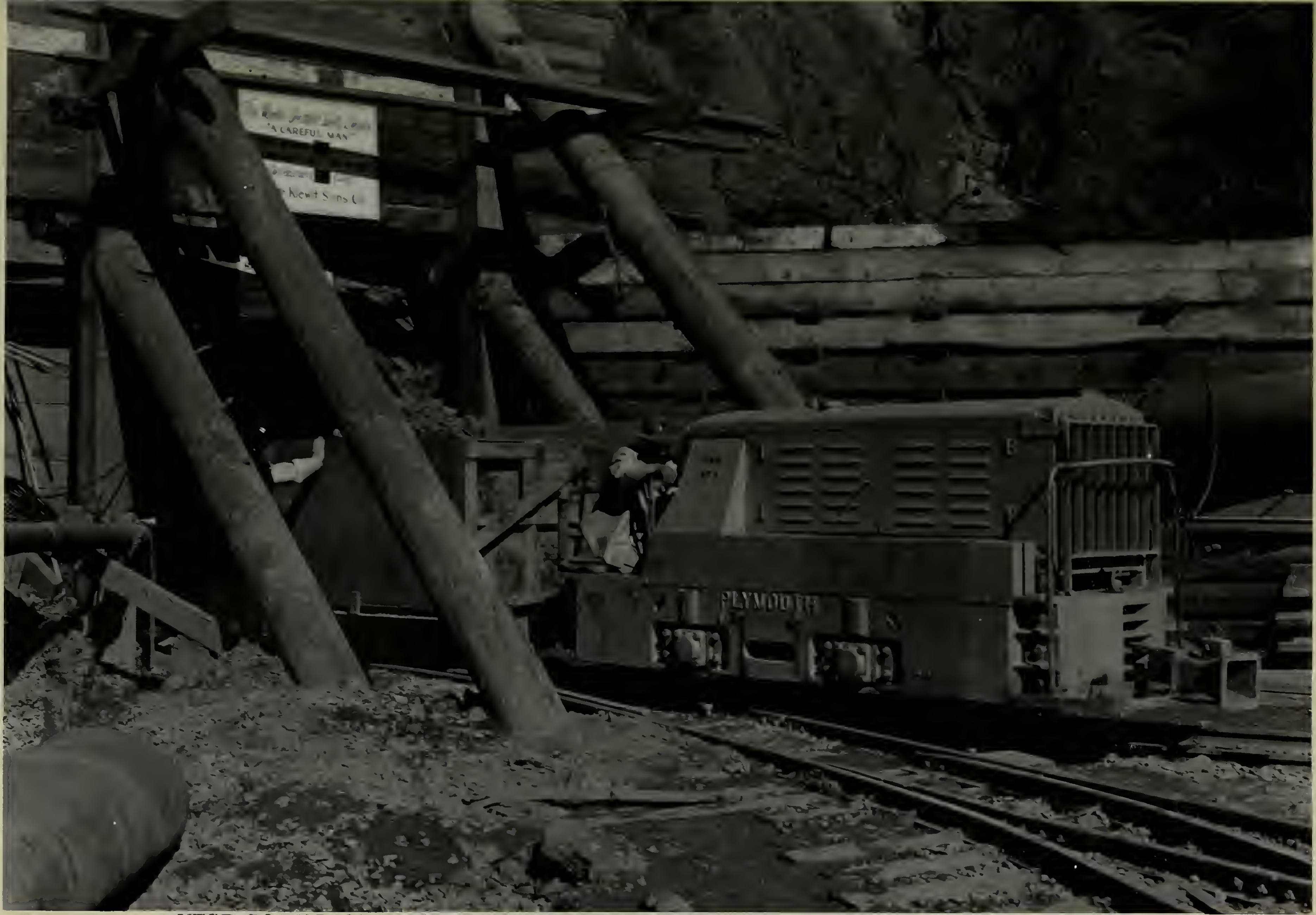


WEST PORTAL OF HILLSBOROUGH TUNNEL FOR CRYSTAL SPRINGS OUTLET AQUADUCT
FEBRUARY 7, 1956

SAN FRANCISCO WATER DEPARTMENT

G. W. PRACY
General Manager and Chief Engineer

The Annual Report of the San Francisco Water Department for 1955-1956 fiscal year is presented in a revised form. The material is grouped by function rather than by Division as heretofore. The statistical information included is, in general, unchanged except in sequence. The curves, charts and tables used previously are to be found herein with the Appendix containing the same tables and in the same order as in last year's report.

A brief resume of a few high lights in the year's activity are contained in this prelude. Additional details, and further information, are included in the body of the report.

Water consumption for the entire system during the year ending June 30, 1956, average 139.1 million gallons daily, an increase of 3.4 million gallons or 2.5% over the preceding year. Of this total 91.3 million gallons were used in the San Francisco consumption area, an increase of 0.2 million gallons per day or 0.2%; the balance of 47.8 million gallons daily was used in the suburban consumption areas, an increase of 3.2 million gallons or 7.2%.

The peak 24 hour demand on the system, occurring on June 27, 1956, was 217.5 million gallons, as compared to the previous all time peak of 197.0 million gallons on June 21, 1954.

The low 24 hour demand on the system, occurring on September 25, 1955, was 83.0 million gallons as compared to the 1954-55 low of 92.5 million gallons on December 11, 1954.

The month of June 1956, had the highest daily average demand of any month during the year averaging 175.7 million gallons per day, as compared to an average of 166.5 million gallons per day in June 1955.

Water Sales for the year, including municipal non-pay accounts, amounted to $13,788,373, an increase of $364,903, or 2.7 per cent over the previous year. Accounts within the City limits increased by $36,570, making a total net sales within the City of $9,935,075 or 72.1 per cent of the Department's total sales. Suburban net sales increased $328,313, making a total suburban sales of $3,853,298, equal to 27.9 per cent of the Department's net sales.

Miscellaneous income totaled $379,622.80 giving a total gross income for the year of $14,167,995.37.

The number of active accounts increased from 151,598 on June 30, 1955 to 152,777 on June 30, 1956, a gain of 1,179 over the year.

Completion of the relocation of the 60-inch Crystal Springs line across the Guadalupe Valley on March 28, 1956, permitted water to flow, for the first time, from Crystal Springs to University Mound Reservoir through a pipeline laid in solid ground for the entire distance. Extensive damage occurred to the 44-inch line in this area during the 1906 earthquake requiring a month to repair. Both lines are being relocated under this contract which eliminates this particularly serious earthquake hazard to our transmission lines to University Mound Reservoir.

Work was started on the 5100 foot tunnel running under the Town of Hillsborough in December 1955. This tunnel, having a 90-inch steel liner backed with concrete, is a common link in our Crystal Springs No. 3 and Sunset Pipe Lines. Completion of this tunnel and the planned connecting lines at the south portal and from the north portal to Burlingame, will provide needed additional capacity from Crystal Springs Reservoir to San Francisco and suburban consumers.

Excavation for the 86 million gallon south basin of Sunset Reservoir began March 19 and was 27% completed on June 30.

Two pumping stations, McLaren Park and Crocker Amazon, and the McLaren Park tank, were constructed during the year to provide adequate pressures at the higher elevations in two areas isolated when the adjoining areas were transferred from Stanford Heights to Sutro Reservoir service district.

A program of replacing small distribution pipes with larger mains has been started. This will give better service to sections of the City.

Forty two contracts for additions and replacements were prepared during the year for a total amount of $2,860,000.00.

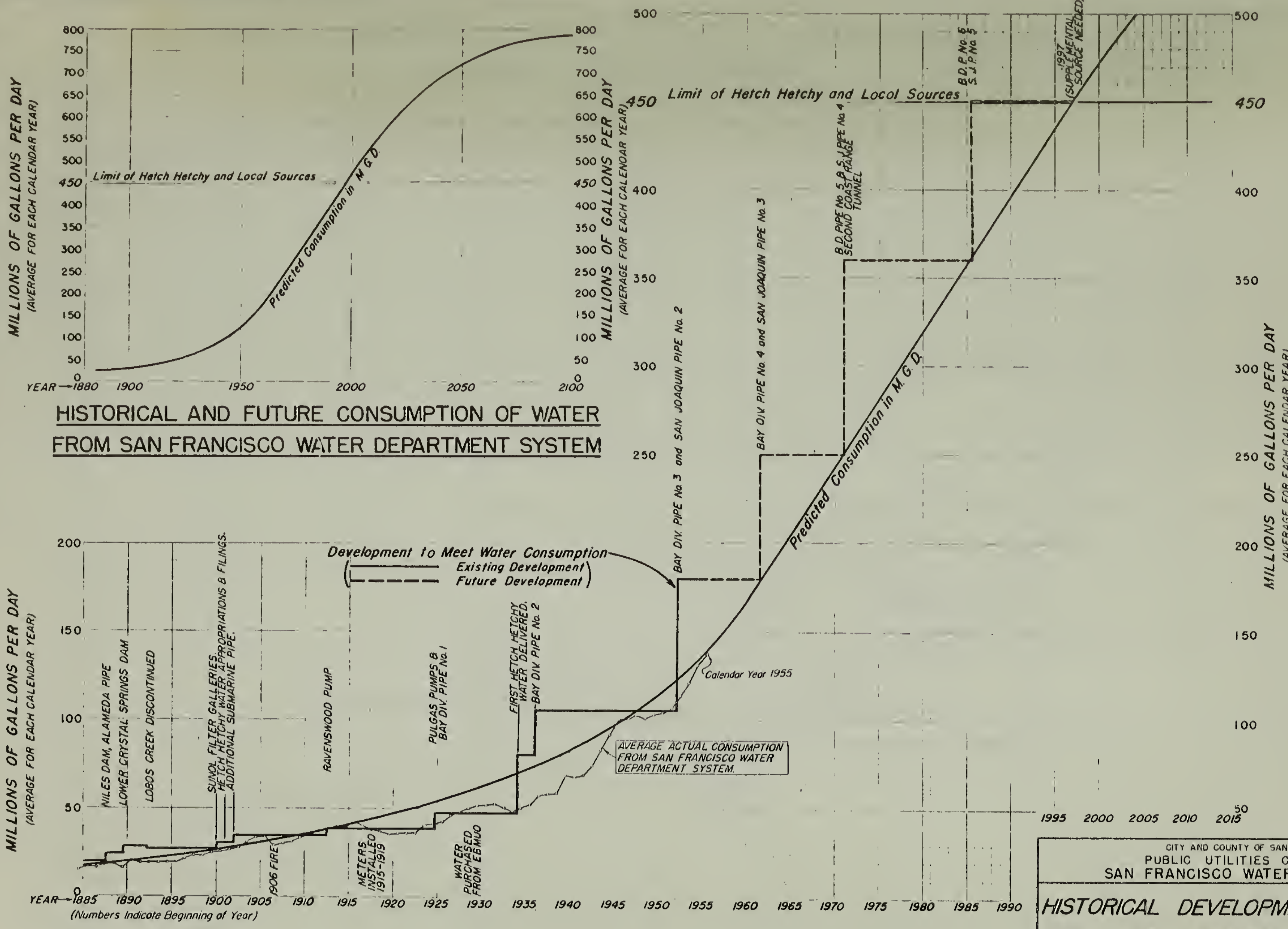
Funds have been set up to make necessary changes and additions to the distribution system which will be required by Western Addition and Diamond Heights Redevelopment Projects.

During the year 11.44 acres of land were sold and 0.14 acres were purchased, making a net decrease of 11.3 acres during the past year and resulting in a total of 63,173.5 acres being held under the Department's jurisdiction.

In May 1956, a safety committee was formed of the supervisory personnel in the City Distribution Division with the aid and assistance of the Utilities Personnel Director and the initial program is proving successful.

Personnel employments totaled 515 on June 30, 1956 of which 66 were on a temporary basis.

This foreword would not be complete without expressing a sincere appreciation to our personnel for their loyalty and cooperative efforts in maintaining and improving the efficiency of the Department.



HISTORICAL AND FUTURE CONSUMPTION OF WATER FROM SAN FRANCISCO WATER DEPARTMENT SYSTEM

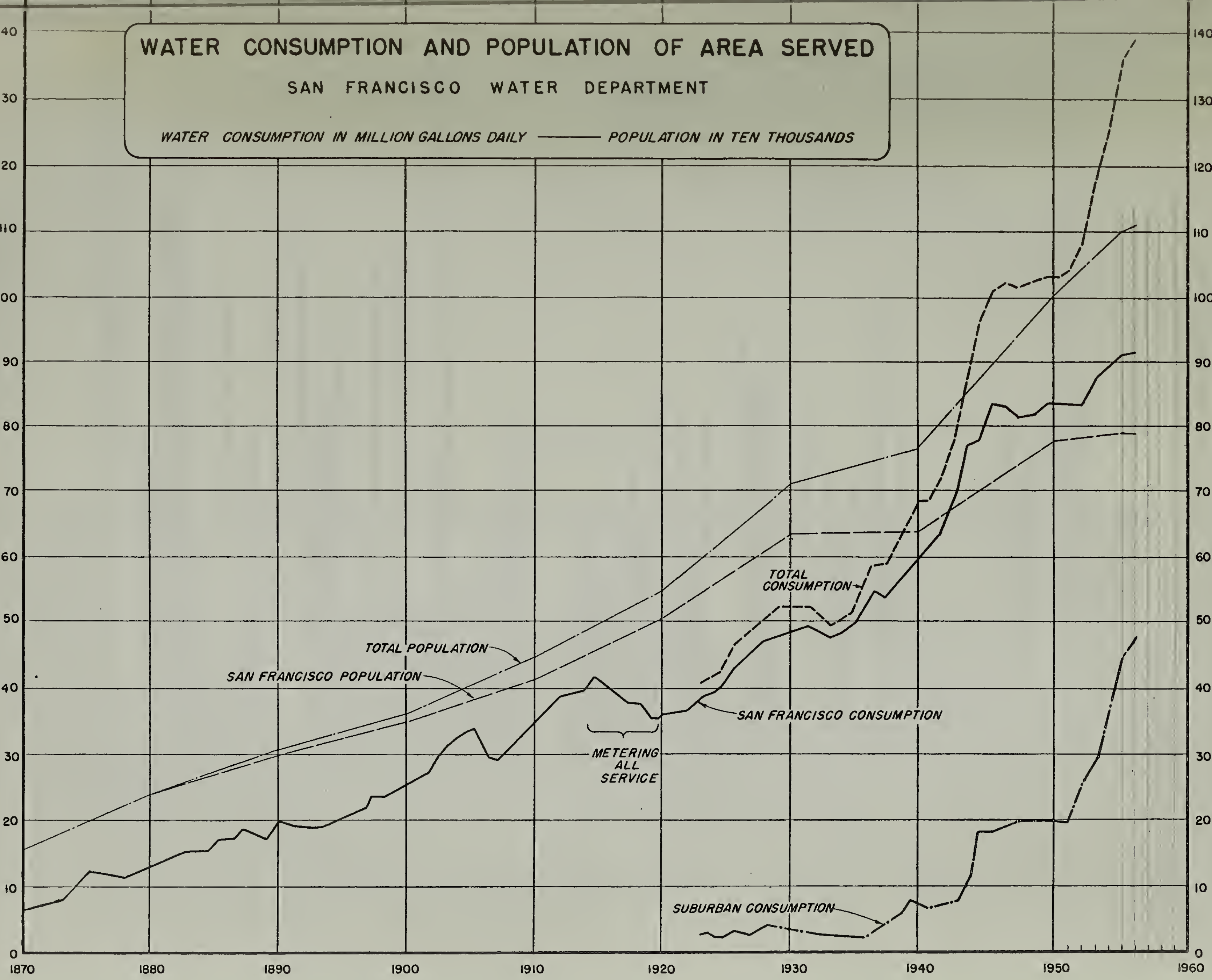
NOTE:-
Aqueduct development to meet water consumption is for delivery to the peninsula reservoirs, and consumers from main aqueduct, and does not include facilities for delivery and distribution therefrom.

Local production of record has varied from none to 94 M G D. (Average for one Year.) The average for about 60 years is approximately 50 M G D. But the average long range safe yield is about 30 to 50 M G D.

CITY AND COUNTY OF SAN FRANCISCO
PUBLIC UTILITIES COMMISSION
SAN FRANCISCO WATER DEPARTMENT

HISTORICAL DEVELOPMENT & PROGRAM
FOR FUTURE AQUEDUCT CONSTRUCTION

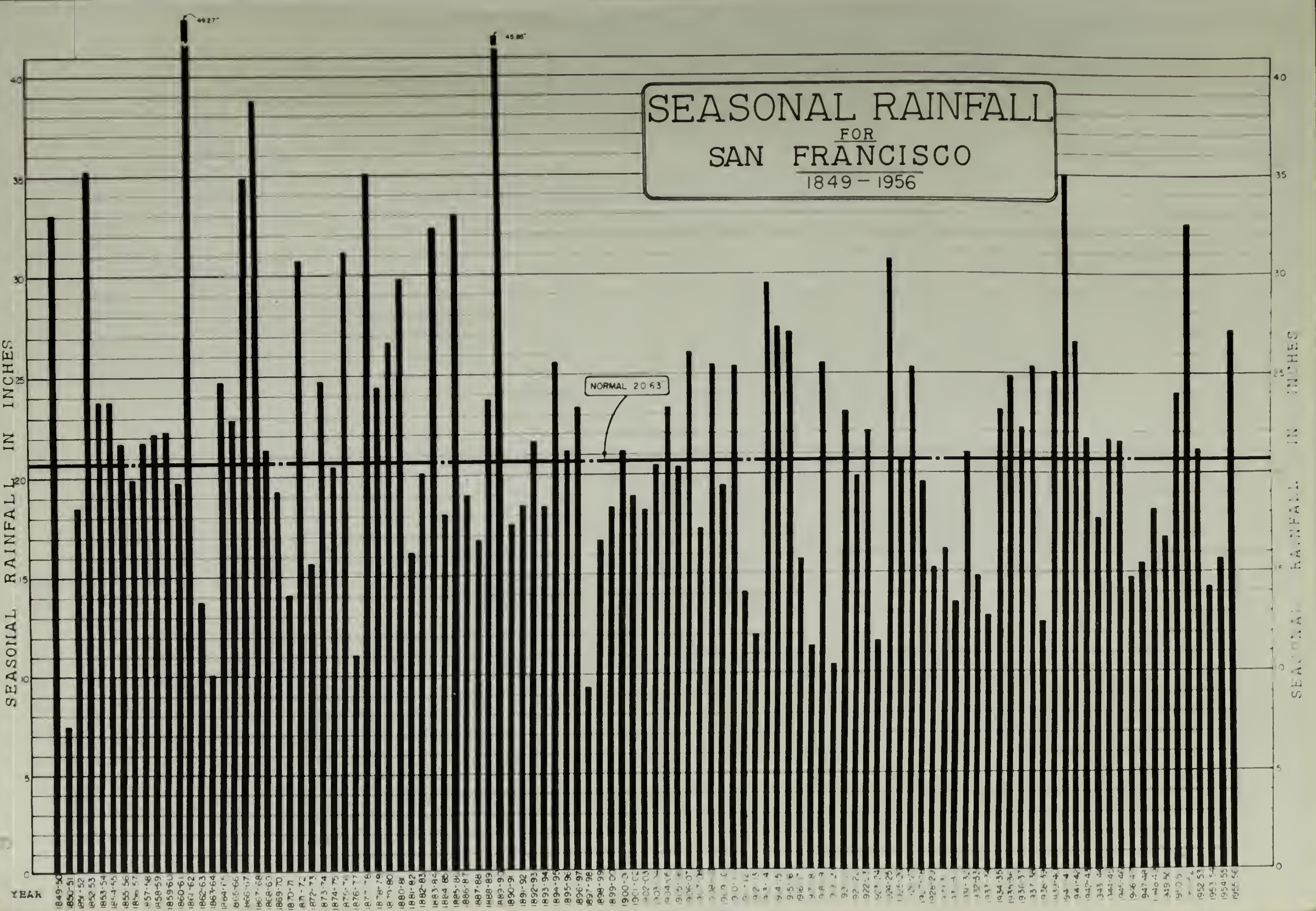
APPROVED	SCALE AS SHOWN	BY J.S.G.	DR. O.J.S.	DRAWING NO.
APPROVED GENERAL MANAGER AND CHIEF ENGINEER		TR. O.J.S.	CH.	X-1682 C
		DATE NOV. 8, 1955	REVISED	



WATER CONSUMPTION AND POPULATION OF AREA SERVED

SAN FRANCISCO WATER DEPARTMENT

WATER CONSUMPTION IN MILLION GALLONS DAILY —— POPULATION IN TEN THOUSANDS


SEASONAL RAINFALL
FOR
SAN FRANCISCO
1849 - 1956
SEASONAL RAINFALL IN INCHES
0
5
10
15
20
25
30
35
40
YEAR
NORMAL 20.63
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45.85"
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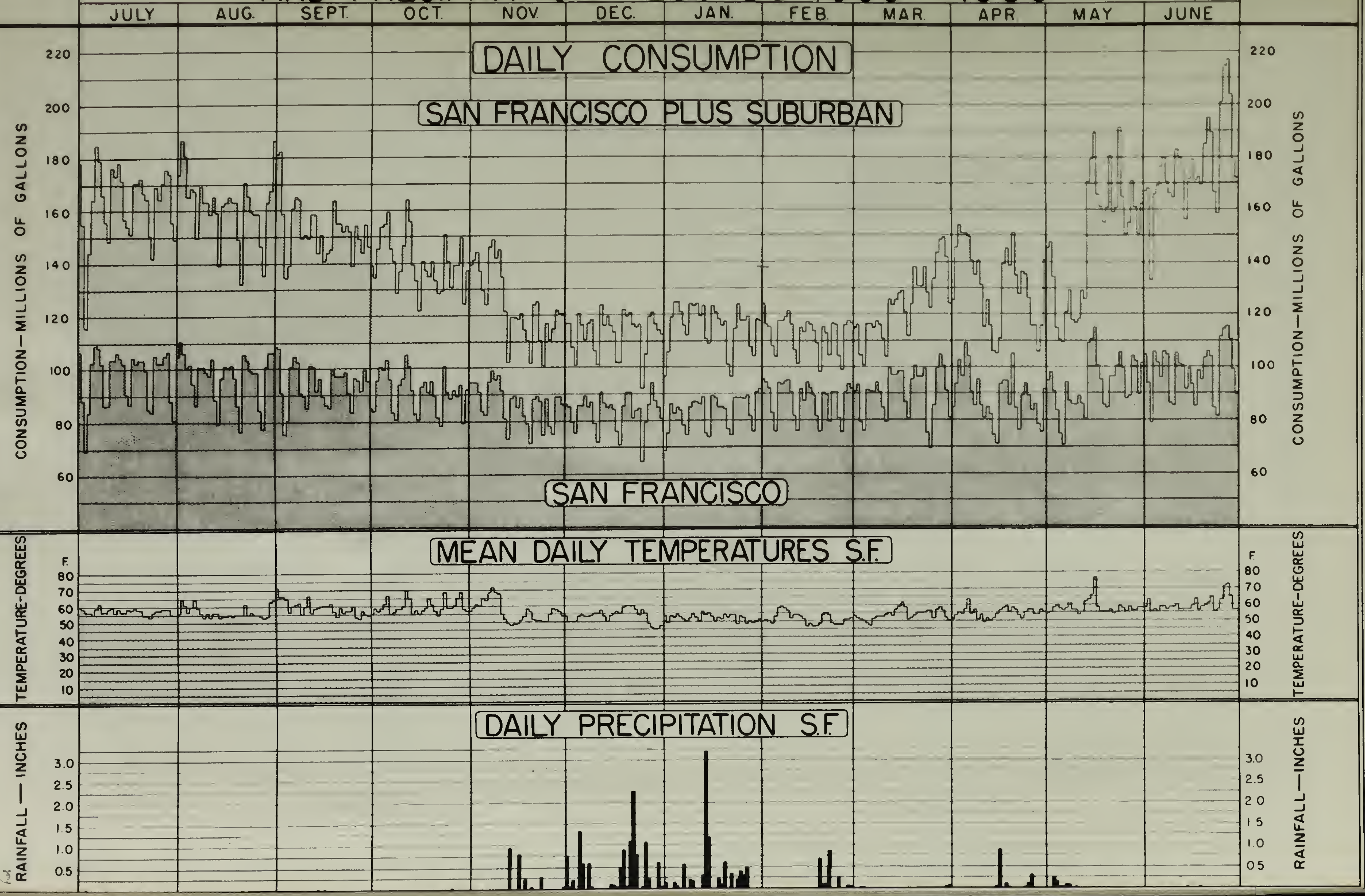
SEASONAL RAINFALL IN INCHES

CONSUMPTION, TEMPERATURE AND PRECIPITATION RECORDS 1955—1956



PRODUCTION and TRANSMISSION

Total water provided for consumption during the year was 50,909.4 million gallons, averaging 139.1 million gallons per day, which is 3.4 million gallons per day more than during the preceding year.

Deliveries to the San Francisco consumption area averaged 91.3 million gallons daily, with deliveries to suburban areas averaging 47.8 million gallons daily. (Some Suburban deliveries in northern San Mateo County are included in the San Francisco consumption area figures.)

Deliveries from Hetch Hetchy were	33,082.5 million gallons.	90.6 mgd
Draft from Local Production and storage was	17,826.9 million gallons.	48.5 mgd
Total	50,909.4 million gallons.	139.1 mgd

The total delivery from Hetch Hetchy since October 18, 1934 now amounts to 390,522 million gallons or an average of 49.3 million gallons per day.

All water delivered to San Francisco was, as heretofore, supplied entirely from San Andres and Crystal Springs Reservoirs in San Mateo County. Those reservoirs were replenished from run-off, by water drawn from Calaveras Reservoir in Alameda and Santa Clara Counties and from the Hetch Hetchy System in the Sierra Nevada Mountains.

This department delivers water directly from the several transmission and supply lines to practically all cities and towns in San Mateo County; to Palo Alto, Woodside, Mountain View, Sunnyvale, Los Altos and unincorporated areas in Santa Clara County on the west side of the Bay; and to the City of Hayward and other relatively small deliveries on the east side of the Bay from Hayward south as far as Milpitas.

RAINFALL AND CATCHMENT:

The rainfall during this year came in a relatively short period of time which resulted in a large percentage of run-off. The precipitation, output, input, storage changes and production are given in detail for the local reservoirs.

At Calaveras there was 28.58 inches of rainfall for the season which is 119% of normal and is 66% higher than last year. Of this total 22.43 inches fell between December 19, 1955 and January 28, 1956. On January 19, 1956, after a total of 19.48 inches of rain, the reservoir was full and running over the spillway. During the fiscal year 9,437.9 million gallons were withdrawn for consumption and net increase in storage was 7,242.7 million gallons, making a useable productivity of 16,680.6 million gallons, an average of 45.6 million gallons per day for the fiscal year. There were 14,782.5 million gallons in addition to the above, which spilled down the creek.

— This include water used for irrigation in Sunol Valley (see pg 12)

Peninsula watersheds averaged approximately 120 percent of normal rainfall as indicated by the readings at the five rain gauging stations on the watersheds. The greatest 24 hours precipitation was between 7 A.M. January 22 and 7 A.M. January 23, 1956, when 5.42 inches was measured at Pilarcitos ranging down to 2.05 inches at Lower Crystal Springs.

The rainfall at the San Andres station was 43.03 inches which was 116% of normal; at Pilarcitos 58.30 inches which was 129% of normal; at Lower Crystal Springs station 36.37 inches which was 132% of normal; at Upper Crystal Springs station 34.09 inches which was 107% of normal and at the Crystal Springs Cottage station 31.74 inches, equal to 117% of normal.

Total storage in the four Peninsula reservoirs was reduced 259 million gallons during the year. The Bay Division Pipe lines delivered 32,663.9 million gallons and there were 41,293.7 million gallons withdrawn for consumption making a useable productivity of 8,370.8 million gallons, an average of 22.9 million gallons per day for the fiscal year. In addition to the above, some 5,000 million gallons spilled over the Lower Crystal Springs Dam and an unknown quantity was lost from Pilarcitos watershed to the Ocean.

Sunol rainfall station recorded 24.37 inches for the year which was 119% of normal and is 63% higher than the preceding year. During this fiscal year some 2,287 million gallons, an average of 6.3 million gallons per day, were collected in the Sunol Filter galleries as measured at the Brightside Weir. This does not include the Sunol Aqueduct flow from December 22 through 26, 1955 as the weir was inaccessible due to flood conditions.

Rainfall at Pleasanton, as measured by the gage, was 21.19 inches for the year. This was 101% of normal and 71% higher than the previous year. The only pumping or production used from this source was for local consumption.

STORAGE:

Calaveras - On July 1, 1955 storage was 21,433 million gallons (gage 123'6¼") or 67.9% of its capacity. Storage dropped to 15,691.3 million gallons (gage 107'3¼") on November 23, 1955. Withdrawal for consumption was stopped on the 24th of November. Storage increased to capacity of the reservoir, 31,550 million gallons (gage 147'5½"), on January 19, 1956. The lake level continued to rise to gage 149'10", which is 2'4½" above the spillway, on January 27, 1956. Withdrawal for consumption was resumed on April 25, 1956. The water level gradually dropped until at the end of June it was at gage height 141'3" with 28,740.8 million gallons stored, 91.1% of its capacity and 7,307.8 million gallons more than at the beginning of the fiscal year. The lake spilled from January 19 to February 8, 1956 and again from February 24 to May 1, 1956, and the needle valve was open from January 5 to March 2, 1956.

Crystal Springs - Storage at the beginning of the year was 17,099 million gallons (gage 109'7½") which was drawn down to 16,949 million gallons (gage 109'3") on September 28, 1955 in preparation for the rainy season. Input through Bay Division Pipelines was reduced as rapidly as possible because of the high run-off which filled the reservoir, 19,022 million gallons (gage 114'3") on December 23, 1955; the water level continued to raise up to gage 116'6½" on December 24, 1955. Two flashboards, raising the spillway 6 inches, were installed on February 16, 1956 with gage reading of 114'5¼". At the end of the year storage was 17,248 million gallons, 90.7% of its capacity, a net gain of 149.8 million gallons during the fiscal year. The lake spilled from December 23, 1955 until March 15, 1956. During this time approximately 5 billion gallons of water passed over the spillway. On March 15 one foot of flashboard was installed to allow new culverts to be installed in San Mateo Creek near the Bay.

San Andres - Storage on July 1, 1955 was 5,583 million gallons (gage 82'1¼"). This was reduced to 5,538 million gallons (gage 81'9¾") on August 2, 1955. On December 23, 1955 the lake level reached the spillway lip with a storage of 6,190 million gallons (gage 86'0") and remained above that level until December 30, 1955. The high gage reading of the year, 86'10½", was reached on December 24, dropping to gage 67'8½" on March 30, 1956. The storage was increased to 5,007.3 million gallons (gage 78'3") on June 30, 1956, which is 80.9% of its capacity and 576 million gallons less than at the beginning of the fiscal year.

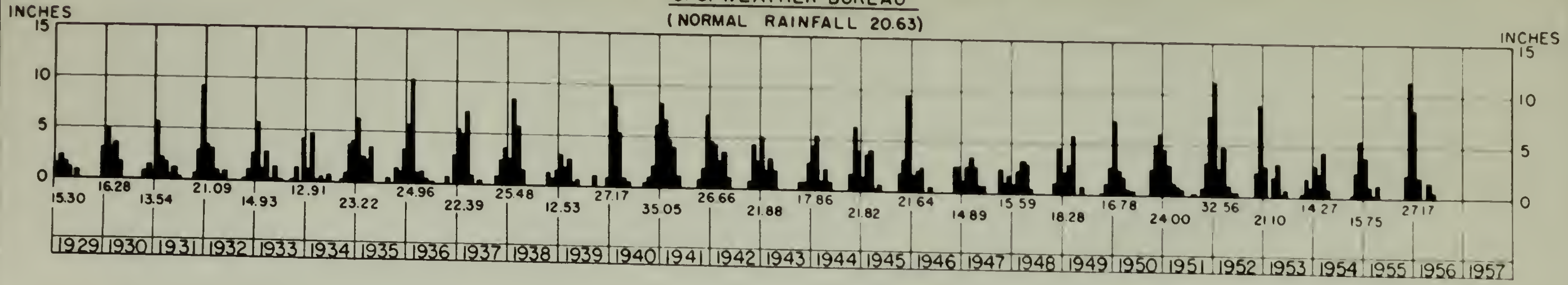
Pilarcitos storage on July 1, 1955 was 448.8 million gallons (gage 25'4¼"). This was drawn down to 60 million gallons (gage 4'0") between October 17 and November 10, 1955 to permit necessary repairs to the outlet tower. Lake level was maintained below gage 5'0" until completion of the repairs on December 9, 1955 when the outlet gates were closed. Between December 18 and January 15, 1956 the reservoir filled to the spillway level (gage 42'0"), reaching the maximum on January 16 with gage reading 43'4". It was above spillway elevation until February 3, 1956. The water level did not again go below gage height of 31'1¼" and at the end of the year there were 615.7 million gallons in the reservoir which is 61.0% of its capacity and 166.9 million gain over the beginning of the year.

Lake Merced, where certain recreational functions are permitted under Park Recreation Department supervision, still remains an emergency source of water supply. At the beginning of the year there were 2,294.6 million gallons of water in storage; during the year this increased 197.2 million gallons to 2,491.8 million gallons, which is 89% of its capacity.

SAN FRANCISCO RAINFALL IN INCHES

U. S. WEATHER BUREAU

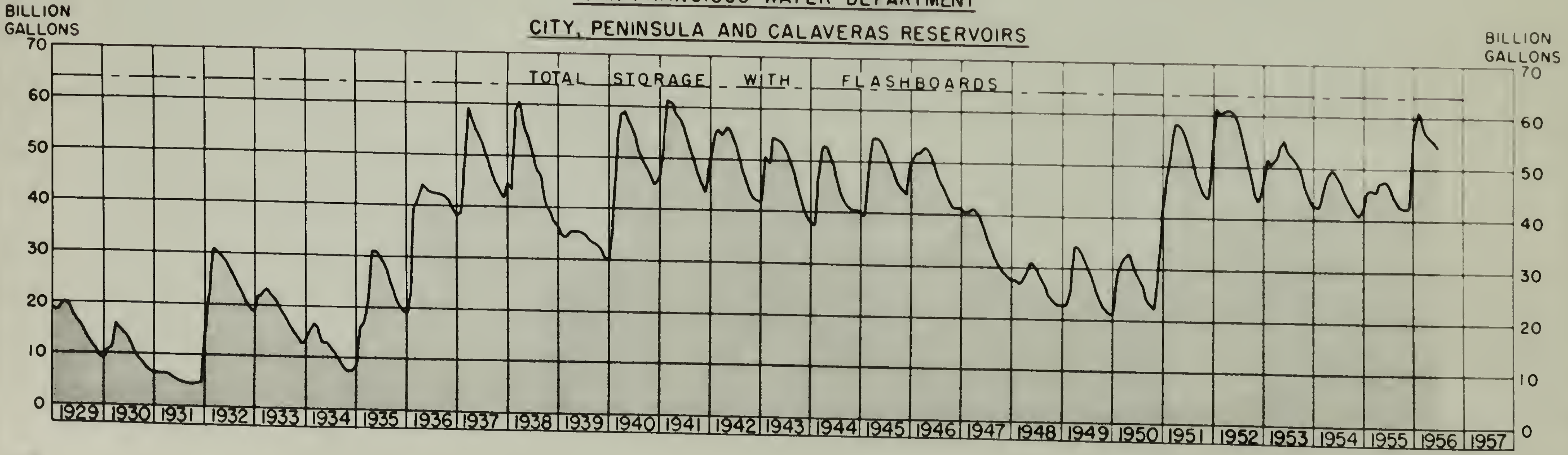
(NORMAL RAINFALL 20.63)



STORAGE IN BILLION GALLONS

SAN FRANCISCO WATER DEPARTMENT

CITY, PENINSULA AND CALAVERAS RESERVOIRS



TRANSMISSION LINES:

The Calaveras Pipeline carried a total of 9,437.9 million gallons, an average of 25.8 million gallons per day, from the reservoir. There were 14.1 million gallons withdrawn for irrigation with the balance of 9,423.8 million gallons, an average of 25.7 million gallons per day, delivered to the Alameda Creek Siphon. This draft occurred between July 1 and November 24, 1955 and from April 25, 1956 to the end of the fiscal year.

The Sunol pipeline, from the Alameda Creek Siphon, delivered a total of 176.3 million gallons of water during the year. Of this total 155.1 million gallons were used for irrigation of the Water Department Lands and 21.2 million gallons were used for the Sunol domestic supply.

No use was made of the Pleasanton Pipeline other than to provide Castlewood Country Club with 22.8 million gallons from July 1 to October 7, 1955, and minor quantities to other local consumers throughout the year.

The Sunol filter galleries supplied 2,287 million gallons for delivery through the Sunol Aqueduct to Niles Reservoir. Out of this quantity 165.5 million gallons were transported through the Niles-Irvington Pipeline to the Irvington Pumps; 468.6 million gallons were carried by the old Alameda 36-inch pipeline to consumers and the Bunting gravel pit for percolation into the underground gravels; 1,442.6 million gallons were spilled from Niles Reservoir and the balance of 210.3 million gallons to local consumption.

Hetch Hetchy supplied 33,082.5 million gallons through the Coast Range Tunnels to Alameda Siphon (90.4 million gallons per day) and Calaveras line supplied 9,423,8 million gallons of Calaveras water to this point. Deliveries to the Sunol Area totaled 176.3 million gallons and the remaining 42,330.0 million gallons (116.2 million gallons per day) was carried through the Irvington Tunnel.

Consumers withdrew 1,347.4 million gallons between Irvington Portal and the Irvington Meters, where there was registered a total flow in the three Bay Division Pipelines of 41,033.5 million gallons of which 51.0 million gallons had been pumped by Irvington pumps to the Portal with return flow being recorded by the meters. This latter quantity, together with withdrawal for suburban consumption of 233.9 million gallons and input of 165.5 million gallons from Sunol, makes a total of 40,914.1 million gallons transported to the west side of the Bay out of which 32,663.9 million gallons were delivered to Crystal Springs Reservoir. Of the remaining 8,250.2 million gallons, 91.1 million gallons were used in draining the No. 1 pipe for repairs and flushing the lines, the balance of 8,159.1 million gallons was withdrawn for consumption west of the Bay.

The two Crystal Springs pipelines carried an average of 59.3 million gallons per day from Crystal Springs Reservoir, plus 3.1 million gallons per day, average, from San Andres Reservoir through San Andres Pipeline No. 2, making a total of 62.4 million gallons per day. This total was distributed as follows: to Sunset Pipeline, 18.1; to University Mound Distribution System and to consumers between there and the Millbrae Headquarters, 30.6 and the balance, 13.7 million gallons daily, to the distribution systems of the several Peninsula communities, as far south as San Carlos.

San Andres Pipeline No. 2 carried an average of 32.6 million gallons daily from the reservoir, delivering 1.8 million gallons a day, average, to Sunset Pipeline; an average of 3.1 million gallons daily to Crystal Springs Pipeline No. 2 and the remaining 27.7 million gallons per day to Sunset Distribution System.

The Sunset Pipeline withdrew an average of 5.4 million gallons a day from San Andres Reservoir through the San Andres Branch. It received an average of 1.8 million gallons per day from San Andres Pipeline No. 2 and an average of 18.1 million gallons daily from Crystal Springs Pipeline No. 2, for a total of 25.3 million gallons a day, average. Of this total, 20.1 million were delivered to Lake Merced Pumps, the balance of 5.2 was delivered direct to Sunset Distribution System.

The Baden-Merced Pipeline carried an average of 7.7 million gallons per day, a total of 2,812.7 million gallons, from the San Andres 44-inch pipeline to Merced Manor Reservoir. The San Andres 44-inch pipeline drew 3,035.1 million gallons from San Andres Reservoir. The difference, 222.4 million gallons, was used by consumers along the pipelines.

The Crystal Springs Aqueduct was in operation throughout the year, carrying a total of 11,103.7 million gallons to San Andres Reservoir from Crystal Springs Reservoir.

The Pilarcitos Aqueduct to San Andres Reservoir was in service during the entire year and carried an average of 6.7 million gallons daily to San Andres Reservoir.

PUMP STATIONS:

Irvington pumps were operated December 28, 1955; three days in March 1956 and twelve days in April 1956, pumping 165.5 million gallons of Sunol water into Bay Division Pipelines.

Crystal Springs-San Andres pumps operated from July 1, 1955 through December 30, 1955 and from March 17 to June 30, 1956. A total of 11,103.7 million gallons was pumped from Crystal Springs to San Andres Reservoir making a daily average pumpage of 30.3 million gallons. Crystal Springs Booster Pumps were not operated during the year.

Baden Pumping Station was not operated during the year but the operating units were maintained in a condition of readiness. Motors were kept dry and turned over every month.

Alemany pumps were not operated during the year.

Pleasanton pumps have not been operated for export since April 30, 1949. Well O-1 was operated intermittently throughout the year to supply domestic needs of local consumers and two additional wells were operated in conjunction with agricultural leases.

There was delivered, through Sunset Pipeline to Lake Merced Pump Station, a total of 7,347.9 million gallons of water, averaging 20.1 million gallons per day. Crystal Springs Reservoir, via Crystal Springs Pipeline No. 2, supplied an average of 18.1 million gallons per day out of this quantity; 16.1 were pumped to Sunset and the other 2.0 million gallons per day picked up by the Sutro Pumps and, together with 2.0 million gallons per day from San Andres Reservoir, made a total of 4.0 million gallons per day average that was pumped to Sutro Reservoir. From June 30, 1955 to December 15, Crystal Springs water was pumped to Sunset Reservoir; San Andres supplied the water from that date to March 29 with only the Sutro Pumps operating. After that date to the end of the year, Crystal Springs water was pumped to both Sunset and Sutro Reservoirs. No water was pumped from Lake Merced.

MAINTENANCE AND OPERATION:

A portion of the old Alameda Pipeline was sold for dismantling and disposal by the buyer. The sale included that portion from Dumbarton Gate House to a point approximately 3.2 miles east near Newark. This sale included the pipe on trestle and the old valve houses but did not include the submarine sections. This line was laid in 1887 and continued in service until 1935. The portion from Niles Reservoir to Centerville is still in service, being leased to the Alameda County Water District.

Twelve leaks occurred on the Bay Division pipeline during the year; 9 on the No. 1 line, 2 on the No. 2 line and 1 (a break due to settlement) on the No. 3 line. One leak occurred on the Palo Alto line and nine leaks on the Alameda pipeline. Nine leaks occurred on the transmission lines from the Peninsula Reservoirs to San Francisco, one on the Crystal Springs force main to the canal and one on the Pilarcitos line.

The creek channel between Pilarcitos Dam and Stone Dam has changed courses in many places, due to its silting up during the heavy run-off. Both bridges on the road to Stone Dam were under water and the southerly one washed out twice. Many of the side gullies that were well covered with vegetation and, apparently had stable top soil, are now bare rock. The concrete catchment dam at the upstream end of Stone Dam flume was washed away completely, as was the flume trestle near the first side feeder. All repairs have been completed.

The heavy rains of this year caused considerable erosion on the watersheds, washed out or damaged various structures and gave considerable trouble from turbid waters.

Alameda Creek at Sunol Dam reached a 15.7 foot stage which was one foot higher than the previous high of March 1911. Some 32,300 cubic feet per second passed that point at the peak of the flood.

The wing wall of the bridge over Calaveras Creek near the Siphon was undermined and tilted. This road was closed until repairs were made. A suspension bridge over Alameda Creek at the Filter Beds was demolished and the suspension bridge and stilling well for the flow recorder at Sunol Dam were damaged.

The Temple Picnic Grounds were flooded and extensive damage necessitated closing the grounds to the public until April 1, 1956. The control wall at Niles Government Station was damaged and the outside gauge board washed away. The stilling well for the recorder at this station filled with mud causing the loss of the history of the peak of the flood. The telephone line from Sunol to Niles was so severly damaged through loss of footings, broken poles and lost wire, that it was considered more economical to abandon that section of the telephone system and lease a channel from the Pacific Telephone and Telegraph Co.

At the Upper Alameda Diversion Dam the downstream apron was badly damaged and rock slides constricted the narrow gorge below the dam. This constriction of the gorge hampered sluicing operations so that more work will be required to clear the detritus in the forebay during the next rainy season. The road along Upper Alameda Creek leading to the Diversion Dam is being repaired and shored at certain locations in preparation for the next winter.

Much of the damage has been repaired but considerable work remains in channelizing the streams where continued high water flows would cause more extensive damage and the downstream apron of Upper Alameda Dam remains to be repaired.

WATER RIGHTS

When the City purchased the Spring Valley Water Co. there were some obligations assumed by the City to provide water to properties that had a right in the sources which Spring Valley Water Co. was using. Among them the following are the most complicated:

The Alameda County Water District includes in their area a tract known as Niles Cone. The ground formation of the cone is such that it readily absorbs surface water and permits an underground flow throughout the extent of the Cone. The diversion and storage facilities of the City at Calaveras, Sunol and to some extent, Pleasanton, withheld water that would otherwise have percolated into the Cone and provided an underground reservoir of water for the use of residents thereon. In order to protect their interests, as well as those of the Spring Valley Water Co., an agreement was entered into whereby each year the Company would release, for percolation into Niles Cone, quantities of water to replace that which would have entered the underground reservoir if it had not been withheld and/or diverted.

During the past fiscal year the Department released 989,290,000 gallons of water for replenishment of the underground supply of the Niles Cone, while under the terms of the agreement 222,850,000 gallons were due the District during that time.

The quantities of water due the District and the quantities released by the Water Department to the District for replenishing the underground waters for each of the past five years are, as follows:

Year	Due the District	Released to the District
1952	350,185,000	1,896,660,000
1953	757,955,000	1,507,419,000
1954	501,614,000	1,251,654,000
1955	747,020,000	722,995,000
1956	222,850,000	989,290,000
	2,579,624,000	6,368,018,000

Other agreements were in connection with the water rights at the Pleasanton Well Field, entered into by the Spring Valley Water Co. and assumed by the City. The agreements were with individual landowners, the Town of Pleasanton and the Pleasanton Township Water District.

This underground supply is used by others, as follows:

The Sheriff of Alameda County continued to use the U.S. Navy's Camp Shoemaker as Santa Rita Rehabilitation Center during the fiscal year. Water supplied to this institution, as well as to the former Naval housing project, Komandorski Village and the Parks Air Force Base, was taken from the Navy's 4.105 and 100 acre tracts within the Pleasanton Water District. Camp Parks

increased withdrawal of ground waters which varied from a high of 3.7 million gallons per day in June 1955, an increase of 0.4 million gallons per day over the previous year, to a low of 0.5 million gallons per day in April 1956, a decrease of 0.4 million gallons per day under last years low.

The high water table for the year, occurring in March 1956, as measured by Well No. W103X was 75.3 which, in spite of the above normal rainfall, was only 4.9 feet higher than the high water table of the previous year.

The Water Department reimbursed the Pleasanton Water District for electric power charges for pumping "Community Wells" and paid power bills rendered to land owners, except as otherwise provided in the agreement.

The Town of Pleasanton continued, throughout the year, to obtain practically all of its water from the Departments' Wells, located at Black Avenue and Santa Rita Road, and paid all resulting electric power bills. The Department reimbursed the Town for these payments when the water table was below the elevation established in the agreement. The water table was above that elevation from December 27, 1955 to May 14, 1956 and no reimbursement was made for this period.

Under the agreement the Department is not obligated to provide the Town of Pleasanton more than 600,000 gallons of water per day free. The Town used over this amount intermittently from May 1955 to November 12, 1955 and from June 22, 1956 to June 30, 1956. The Department billed the Town for all water they used in excess of that amount.

WATER QUALITY AND TREATMENT

GENERAL:

Normal water treatment practices and adequate precautions for safeguarding the San Francisco water supply were in force throughout the year.

In general, the water is free of tastes and odors and the quality is good for an unfiltered supply derived primarily from surface sources; however, during the past winter, the unusually heavy run-off into the local reservoirs caused the turbidity to be five to ten times normal.

LABORATORY:

All analytical work in the fields of biology, bacteriology and chemistry, except the necessary field tests, was performed in our laboratory, located at Millbrae, which has been certified by the State Department of Public Health as an "Approved Water Laboratory for Complete Chemical and Complete Bacteriological Analyses".

Following is a tabulation which summarizes the field and laboratory tests made during the year in connection with water treatment, sanitary control, and special investigations:

Bacteriological Examinations	7530
Routine Microscopical Examination of Algae	392
Electrical Conductivity Measurements	4191
Turbidity Measurements	3912
Partial Chemical Analyses	1013
Routine Fluoride Tests	2022
Color Measurements	847
Dissolved Oxygen Tests	580
Analyses to Determine Orgin of Leaks	395
Complaint Investigations	65
Chlorine Residual Tests	4680
Miscellaneous Field Tests	2750
Miscellaneous Laboratory Tests not otherwise included	350

CHLORINATION:

Disinfection of all supplies was adequate and continuous throughout the year, with no water being exposed to contamination between the time of last chlorination and the consumer's service. Ten of our chlorination stations operated continuously with the Calaveras, Francisco and Sunset stations operating for 6.9 months, 5.5 months and 9.3 months respectively. The Irvington station was operated for 0.6 months and the Crystal Springs-San Andres Aqueduct was chlorinated for 0.7 months during the period of high turbidity in these lines.

A total of 1,089,512 pounds of chlorine was used during the year, a 15.9% increase as compared with last years usage.

Fifty one and eight tenths percent (51.8%)of the total was used at the Tesla Station, 14.1% in the Alameda Division, 30.4% in the Peninsula Division and 3.7% in the City Distribution Division. Chlorine dosages averaged 17.9 pounds per million gallons at the Tesla Station, 14.3 pounds per million gallons at the Calaveras Station, 6.5 pounds per million gallons at the Sunol Station, 7.8 pounds per million gallons at the Crystal Springs Station and 8.4 pounds per million gallons at the San Andres Stations. Chlorine dosages at the San Andres and Crystal Springs Stations have been higher than usual to meet the chlorine demand of the high turbidity in these waters.

FLUORIDATION:

Fluoridation was extended to the entire San Francisco water supply by the completion of the Crystal Springs and San Andres No. 1 Fluoride Stations.

The Crystal Springs Station was put into operation July 28, 1955 and the San Andres No. 1 Station was put into operation September 27, 1955. Both Crystal Springs machines were off during the last half of September, due to the unavailability of fluoride.

During the past fiscal year, a total of 357,342 pounds of sodium silicofluoride was used to treat 34,843.7 million gallons of water. The over-all average dosage of 10.25 pounds per million gallons is equal to 0.75 parts per million of available fluoride. This amount,added to the 0.05 ppm of natural fluoride in the water supply, gave an average total fluoride of 0.80 parts per million.

CORROSION CONTROL:

A total of 1,157,209 pounds of lime was used at the Rock River plant in treating 31,762.5 million gallons of water, giving a dosage of 36.5 pounds per million gallons. The total lime used is a decrease of 22.4% from the previous year.

ALGAE CONTROL:

A total of 39,000 pounds of copper sulfate was required during the year for the control of algae activity in our local storage and impounding reservoirs. This is a 40.6% decrease as compared to last years usage and is 52.2% below the past ten year average.

WATER QUALITY:

The dissolved chemical content of the water served to consumers from the various sources of supply shows little variation when compared with the water served last year. Any change in chemical content of the water served from the Bay Crossing Lines is due primarily to differences in proportion of water entering from Calaveras and Hetch Hetchy and not from any changes in the chemical content of these sources. The major change in our water supply was the increased turbidity caused by the unusually heavy run-off from our Peninsula sources.

A table headed "Water Quality, 1955-1956" gives the major characteristics of water served from the Crystal Springs Lines, the San Andres Lines and the Bay Crossing Lines.

TABLES AND CHARTS:

The tables that follow are entitled:

Operation of Chlorination Stations 1955-1956
1955-1956 Operation of Fluoridation Stations
1955-1956 Copper Sulfate
Water Quality 1955-1956 Data
San Francisco Water Department - Mineral Analyses - Source Supplies
San Francisco Water Department - Mineral Analyses - Lake Merced
San Francisco Water Department - Typical Analyses of Waters Served to Consumers
Monthly Summaries of Bacteriological Analyses - Samples Collected from the San Francisco Distribution System in Accordance with Certification Requirements
Bacteriological Analyses - Annual Summary of Results Raw Water - Sources and Reservoirs
Bacteriological Analyses - Annual Summary of Results Treated Waters

The charts included give for the year 1955-1956: Electrical Conductivities of Water Delivered to Consumers, Hardness of Water Delivered to Consumers, Temperature and Dissolved Oxygen of Water Delivered to Consumers, Microscopical Organism Record for Peninsula Reservoirs and Monthly Chlorine Usage in Water Supply Systems.

OPERATION OF CHLORINATION STATIONS
1955 - 1956

Location		Total Operating Time (months)	Chlorine Used (lbs.)	
Division	Station		Station Total	Division Total
Coast Range H.H.W.S.	Tesla	12.0	564,995	564,995
Alameda	Calaveras	6.9	135,108	
	Sunol Aqueduct	12.0	15,739	
	Irvington	0.6	2,340	153,187
Peninsula	Crystal Springs	12.0	190,247	
	San Andres #1	12.0	9,066	
	San Andres #2	12.0	98,527	
	San Andres #3	12.0	31,278	
	C.S. Aqueduct	0.7	1,658	330,776
City Distribution	University Mound			
	Line #1	12.0	9,546	
	Line #2	12.0	13,184	
	College Hill	12.0	8,484	
	Lombard	12.0	817	
	Francisco	5.5	14	
	Sunset	9.3	6,334	
	Univ. Md. Inlet #1	7.5	2,175	
	Merced Manor	0.0	0	40,554
			Total	1,089,512

1955-1956

OPERATION OF FLUORIDATION STATIONS

STATION	Months Operated	Fluoride Used (lbs.)	Flow (m.g.)	Fluoride Added		Total Fluoride F ppm
				Na_2SiF_6 lbs/m.g.	F ppm	
.S. #1	8.8	97,007	8,995.4	10.78	0.79	0.84
.S. #2	10.4	134,881	11,644.2	11.58	0.85	0.90
an Andres #1	9.1	18,661	2,253.0	8.29	0.61	0.66
an Andres #2	12.0	106,793	11,951.1	8.94	0.65	0.70
	Total	357,342	34,843.7	10.25	0.75	0.80

Crystal Springs Station put into operation July 28, 1955.

San Andres #1 Station put into operation September 27, 1955.

1955-1956

COPPER SULFATE

RESERVOIR	DATE	AMOUNT $CuSO_4$ (lbs.)	STORAGE (mg)	REASON FOR TREATMENT
Calaveras	Sept. 1955	20,500	17,675	Dynobryon and Ceratium
Upper Crystal Springs	Aug. 1955	11,000	6,860	Ceratium and Staurastrum
Pilarcitos	July 1955	1,000	445	Staurastrum, Ceratium and Synedra
San Andres	Apr. 1956	6,400	4,090	Asterionella
Stone Dam	July 1955	50	8	Mallomonas, Staurastrum, Dynobryon and Ceratium.
	Sept. 1955	50	8	Dynobryon
	Total	39,000	29.09 Billion gallons	

$$\begin{array}{r} 65{,}700 \\ \underline{-39{,}000} \\ 26{,}700 \end{array} \qquad \frac{26{,}700\text{x}100}{65{,}700}$$ = 40.6 Percent decrease from previous year.

$$\begin{array}{r} 81{,}580 \\ \underline{-39{,}000} \\ 42{,}580 \end{array} \qquad \frac{42{,}580\text{x}100}{81{,}580}$$ = 52.2 Percent below the previous 10 year average.

WATER QUALITY

1955-1956

CRYSTAL SPRINGS LINES

Hardness	Max. 58	Min. 26	Av. 43.5 ppm. (2.54 gpg.)
pH	Max. 7.9	Min. 7.0	Av. 7.31
Alkalinity	Max. 50	Min. 24	Av. 36.7 ppm.
Chloride	Max. 9	Min. 2	Av. 5.4 ppm.
Conductivity	Max. 149	Min. 75	Av. 113 Micromhos
Turbidity	Max. 51.0	Min. 0.5	Av. 8.8 ppm.
Temperature	Max. 67	Min. 51	Av. 58.8° F.
Dissolved Oxygen	Max. 11.0	Min. 7.5	Av. 9.32 ppm (92% Saturation)

SAN ANDREAS LINES

Hardness	Max. 56	Min. 34	Av. 45.4 ppm. (2.65 gpg.)
pH	Max. 8.0	Min. 7.1	Av. 7.38
Alkalinity	Max. 46	Min. 32	Av. 37.4 ppm.
Chloride	Max. 12	Min. 4	Av. 7.9 ppm.
Conductivity	Max. 155	Min. 102	Av. 122 Micromhos
Turbidity	Max. 15.5	Min. 0.5	Av. 4.6 ppm.
Temperature	Max. 66	Min. 49	Av. 57.6° F.
Dissolved Oxygen	Max. 12.6	Min. 7.9	Av. 10.14 ppm. (98% Saturation)

BAY CROSSING LINES

Hardness	Max. 52	Min. 14	Av. 32.5 ppm. (1.90 gpg.)
pH	Max. 9.4	Min. 7.1	Av. 8.40
Alkalinity	Max. 44	Min. 12	Av. 29.0 ppm.
Chloride	Max. 10	Min. 1	Av. 3.3 ppm.
Conductivity	Max. 136	Min. 45	Av. 92 Micromhos
Turbidity	Max. 4.0	Min. 0.5	Av. 1.2 ppm.
Temperature	Max. 62	Min. 49	Av. 54.9° F.
Dissolved Oxygen	Max. 12.2	Min. 6.7	Av. 9.58 ppm. (90% Saturation)

Conc

pH

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Calc

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SAN FRANCISCO WATER DEPARTMENT

MINERAL ANALYSES - SOURCE SUPPLIES

(Results expressed in parts per million, except pH and conductivity. Conductivity expressed in reciprocal ohms x 10^5)

SOURCE	Hetch-Hetchy at Alameda Ea. Portal	Calaveras Reservoir	Sunol Aqueduct	Pleasanton Wells	Pilarcitos Reservoir
Date Sampled	5/25/53	4/6/55	4/6/55	4/6/55	4/5/55
Conductivity (K x 10^5)	5.4	25.4	53.8	87.1	18.2
pH	9.2	8.3	7.6	7.6	7.9
Total Solids (Calculated)	34	144	331	404	104
Silica (SiO_2) (Colorimetric)	5.0	3.6	12.0	16.0	11.0
Sodium (Na)	5.1	10.8	27.1	32.3	14.1
Calcium (Ca)	5.5	31.4	62.9	66.4	16.2
Magnesium (Mg)	0.5	8.6	19.2	34.1	4.8
Iron, Dissolved (Fe)	0	0.02	0.02	0.02	0.04
Aluminum (Al)	0.02	0	0	0	0
Manganese (Mn)	0	0	0	0	0
Boron (B)	0.12	0.09	0.21	0.18	0.07
Fluoride (F)	0.15	0.15	0.05	0.05	0.05
Carbonate (CO_3)	1.8	0	0	0	0
Bicarbonate (HCO_3)	15.9	130	238	326	66
Sulphate (SO_4)	3.6	21.4	66.0	56.9	8.8
Chloride (Cl)	4	4	21	26	17
Nitrate (NO_3)	0.01	0.01	5.5	12.8	0.01
Hardness, Calculated ($CaCO_3$)	16	114	236	306	60
Alkalinity ($CaCO_3$)	17	106	195	267	54

Exact analyses of runoff into Crystal Springs and San Andres Reservoirs cannot be made as water from many sources in use mixes in these reservoirs.

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SAN FRANCISCO WATER DEPARTMENT

MINERAL ANALYSES

(Results expressed in parts per million except pH, conductivity and percent sodium)

SOURCE	LAKE MERCED NORTH	LAKE MERCED SOUTH
DATE SAMPLED	Apr. 11, 1955	Apr. 11, 1955
Conductivity ($K \times 10^5$)	53.7	56.3
pH	8.3	8.3
Total Solids (calculated)	306	336
Silica and Insolubles	19.4	33.1
Sodium (Na)	50.1	52.8
Calcium (Ca)	26.2	26.2
Magnesium (Mg)	23.5	26.9
Iron & Aluminum (Fe_2O_3+Al_2O_3)	4.6	5.5
Boron (B)	0.05	0.02
Fluoride (F)	Less than 0.1	Less than 0.1
Carbonate (CO_3)	0	0
Bicarbonate (HCO_3)	157	181
Sulphate (SO_4)	28.8	20.6
Chloride (Cl)	76	82
Nitrate (NO_3)	0.5	0.3
* % Sodium $\left(\frac{Na \times 100}{Ca+Mg+Na}\right)$	40	40

*Concentrations in milligram equivalents per liter

SAN FRANCISCO WATER DEPARTMENT

TYPICAL ANALYSES OF WATERS SERVED TO CONSUMERS

(Results expressed in parts per million, except pH and conductivity Conductivity expressed in reciprocal ohms x 10^5)

SOURCE	Crystal Springs Lines	San Andres Lines	Bay Crossing Lines *	Stone Dam Reservoir
Date Sampled	4/5/55	4/5/55		4/5/55
Conductivity (K x 10^5)	10.4	13.2	10.7	28.6
pH	7.7	7.7	8.3	7.9
Total Solids (Calculated)	58	72	66	166
Silica (SiO_2) (Colorimetric)	4.6	5.4	6.1	13.4
Sodium (Na)	6.1	7.7	6.7	17.2
Calcium (Ca)	11.4	13.1	12.5	30.6
Magnesium (Mg)	2.8	4.2	3.1	8.7
Iron, Dissolved (Fe)	0.02	0.02	0	0.08
Aluminum (Al)	0	0	0.02	0
Manganese (Mn)	0	0	0	0
Boron (B)	0.06	0.08	0.11	0.14
Fluoride (F)	*** 0.05	** 0.05	0.15	0.10
Carbonate (CO_3)	0	0	1.2	0
Bicarbonate (HCO_3)	47	54	46	120
Sulphate (SO_4)	7.3	8.0	7.9	14.6
Chloride (Cl)	4	8	4	23
Nitrate (NO_3)	0.01	0.01	0.01	0.01
Hardness, Calculated ($CaCO_3$)	40	50	44	112
Alkalinity ($CaCO_3$)	38	44	38	98

Column 1 Supplies downtown, commercial, water front areas of the City, and Peninsula communities as far south as San Carlos.
Column 2 Supplies residential areas of the City.
Column 3 Supplies Peninsula communities south of San Carlos and some communities in Alameda County. (*Average analyses of water served; water may range from Hetch Hetchy only to Calaveras only.)
Column 4 Supplies Coast County Water District.
** North San Andreas Line 0.95 Parts Per Million Fluoride after treatment.
*** Since July 28, 1955 Crystal Springs Lines 0.95 Parts Per Million Fluoride

MONTHLY SUMMARIES OF BACTERIOLOGICAL ANALYSES
SAMPLES COLLECTED FROM THE SAN FRANCISCO DISTRIBUTION SYSTEM
IN ACCORDANCE WITH CERTIFICATION REQUIREMENTS

Month	Number of Samples	Coliform Tests				
		Samples Positive (3 or More Tubes)		10 ml Tubes or Portions		
		Number Positive	Per Cent Positive	Number of Tubes	Tubes Positive	Per Cent Positive
1955						
July	354	0	0	1770	5	0.3
August	379	4	1.1	1895	35	1.8
September	385	20	5.2	1925	123	6.4
October	384	21	5.5	1920	112	5.8
November	353	4	1.1	1765	32	1.8
December	391	7	1.8	1955	41	2.1
1956						
January	383	3	0.8	1915	38	2.0
February	353	4	1.1	1765	33	1.9
March	387	1	0.3	1935	13	0.7
April	360	22	5.8	1900	142	7.5
May	395	18	4.6	1975	112	5.7
June	365	14	3.8	1825	74	4.1

BACTERIOLOGICAL ANALYSES

ANNUAL SUMMARY OF RESULTS

RAW WATERS - SOURCES AND RESERVOIRS*

Origin of Sample	Agar Count No. per ml			Coliform Group 10 ml Portions			Samples		
	Min.	Max.	Av.	No. Exam.	No. Pos.	% Pos. Yr.	No. Exam.	No. Pos.	% Pos. Yr.
Moccasin Reservoir	1	12000	4000	265	161	60.8	53	33	62.3
Tesla Portal	1	2000	150	260	19	7.3	52	4	7.7
Calaveras Reservoir	1	560	57	405	112	27.7	81	17	21.0
Sunol Filters	1	9	1	260	70	26.9	52	10	19.2
Pleasanton Well Field	1	300	10	255	88	34.5	51	19	37.2
Pleasanton Town Well	1	75	2	465	1	0.2	93	0	0
Upper C.S. Res.	1	500	90	250	116	46.4	50	22	44
Lower C.S. Res.	1	1000	66	520	263	50.6	104	53	51.0
San Andres Res.	1	600	23	520	369	71.0	104	75	72.1
Pilarcitos Res.	1	200	15	240	77	32.1	48	11	22.9
Stone Dam Res.	1	650	37	240	160	66.7	48	29	60.4
Lombard Reservoir	1	35	3	520	282	54.2	104	56	53.8
Univ. Md. Res. #1	1	50	4	525	293	55.8	105	59	56.2
Univ. Md. Res. #2	1	200	6	525	63	12.0	105	10	9.5
College Hill Res.	1	2000	71	520	231	44.4	104	48	46.2
Sunset Reservoir	1	45	2	520	46	8.8	104	5	4.8
Francisco Reservoir	1	3	2	210	34	16.2	42	4	9.5
Lake Honda Res. **	1	300	69	130	53	40.8	26	14	53.8
Lake Merced N.	1	120	14	130	77	59.2	26	20	76.9
Lake Merced S. ***	1	240	35	130	77	59.2	26	18	69.2
				M. P. N.					
				Min.	Max.	Av.			
Laguna Creek	1	6200	940	38	24000	13350	28	28	100
Alameda Creek	1	5000	230	8.8	24000	3080	35	35	100
San Antonio Creek	1	1500	100	38	24000	4610	26	26	100

* - Includes all distribution reservoirs with chlorination facilities operating at the outlet.

** - Standby purpose only.

*** - Emergency standby source.

M.P.N. - Most probable number per 100 ml.

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Irv.
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BACTERIOLOGICAL ANALYSES

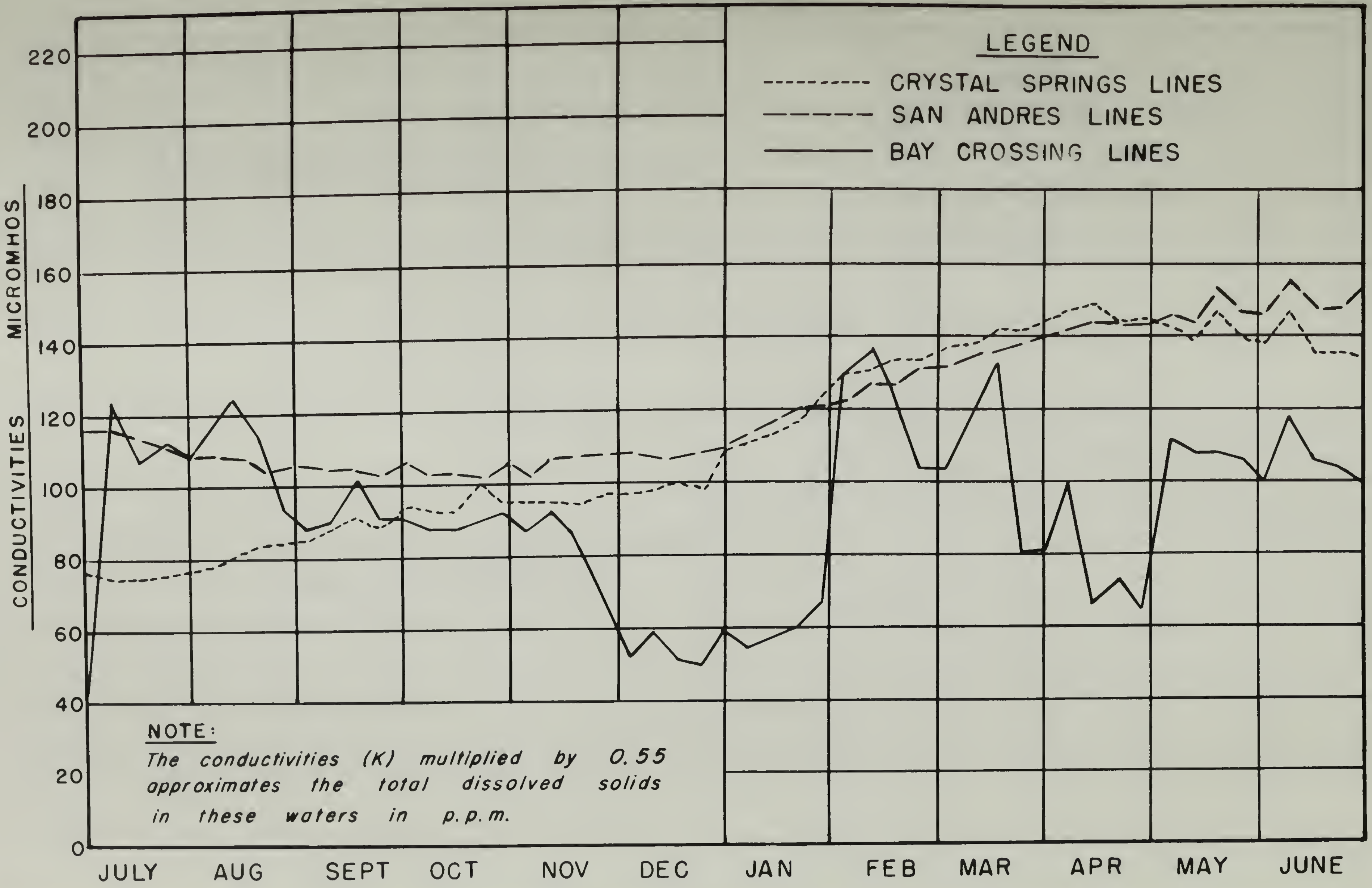
ANNUAL SUMMARY OF RESULTS

TREATED WATERS

Origin of Sample	Agar Count No. per ml			Coliform Group 10 ml Portions			Samples		
	Min.	Max.	Av.	No. Exam.	No. Pos.	% Pos. Yr.	No. Exam.	No. Pos.	% Pos. Yr.
Alameda East Portal	1	10	2	275	0	0	55	0	0
Calaveras Pipe Line	1	5	2	150	0	0	30	0	0
Sunol Aqueduct	1	40	2	265	4	1.5	53	1	1.9
Irvington Pump Station									
Sunol Town Supply	1	20	3	520	0	0	104	0	0
Bay Crossing Lines	1	52	2	1510	11	0.7	302	2	0.7
Palo Alto Pipe Line	1	70	3	765	13	1.7	153	1	0.6
Alameda Line, Belmont	1	15	2	590	12	2.0	118	3	2.5
San Francisco Airport	1	16	2	530	39	7.4	106	9	8.5
Crystal Springs Line No. 1	1	12	2	1575	15	0.9	315	2	0.6
Crystal Springs Line No. 2	1	8	2	1575	3	0.2	315	1	0.3
San Andres Line #1	1	7	2	1575	3	0.2	315	0	0
San Andres Line #2	1	7	3	1575	5	0.3	315	1	0.3
San Andres Line #3	1	6	2	455	0	0	91	0	0
Univ. Md. Inlet #1	1	30	2	540	56	10.4	108	11	10.2
Univ. Md. Inlet #2	1	6	2	530	8	1.5	106	1	0.9
Univ. Md. Outlet #1	1	150	3	495	0	0	99	0	0
Univ. Md. Outlet #2	1	80	3	520	0	0	104	0	0
Univ. Md. System #1	1	4	2	520	0	0	104	0	0
Univ. Md. System #2	1	350	2	525	38	7.2	105	9	8.6
Univ. Md. System #3	1	3	2	520	12	2.3	104	2	1.9
Univ. Md. System #4	1	3	2	520	9	1.7	104	2	1.9
Univ. Md. System #5	1	5	2	575	30	5.2	115	5	4.3
Univ. Md. System #6	1	114	3	560	74	13.2	112	13	11.6
Francisco Outlet	1	5000	3	470	11	2.3	94	1	1.1
College Hill Transmission Sys.	1	5	2	515	32	6.2	103	6	5.8
College Hill Outlet	1	6	2	520	3	0.6	104	0	0
College Hill System #1	1	500	4	520	48	9.2	104	9	8.6
College Hill System #2	1	82	3	520	29	5.6	104	7	6.7
Sunset Transmission System	1	32	3	520	0	0	104	0	0
Sunset Inlet	1	5	2	520	4	0.8	104	0	0
Sunset Outlet	1	4	2	515	17	3.3	103	2	1.9
Sunset System #1	1	120	3	525	13	2.5	105	1	0.9
Sunset System #2	1	3	2	520	17	3.3	104	4	3.8
Forest Hill System	1	6	2	515	16	3.1	103	2	1.9
Potrero Hts. System	1	25	3	545	78	14.3	109	13	11.9
Lombard System	1	5	2	530	33	6.2	106	3	2.8
Merced Manor Reservoir	1	5	2	525	32	6.1	105	3	2.8
Merced Manor System	1	40	2	520	11	2.1	104	1	0.9
Stanford Hts. Res.	1	6	2	525	64	12.2	105	7	6.7
Stanford Hts. System #1	1	7	2	520	14	2.7	104	0	0
Stanford Hts. System #2	1	3	2	515	34	6.6	103	4	3.9
Sutro Reservoir	1	15	2	520	38	7.3	104	5	4.8
Wilde Ave. System	1	75	3	520	37	7.1	104	7	6.7
Summit Reservoir	1	5	2	240	18	7.5	48	2	4.2
Sunset Supply Line #2	1	1	1	25	0	0	5	0	0

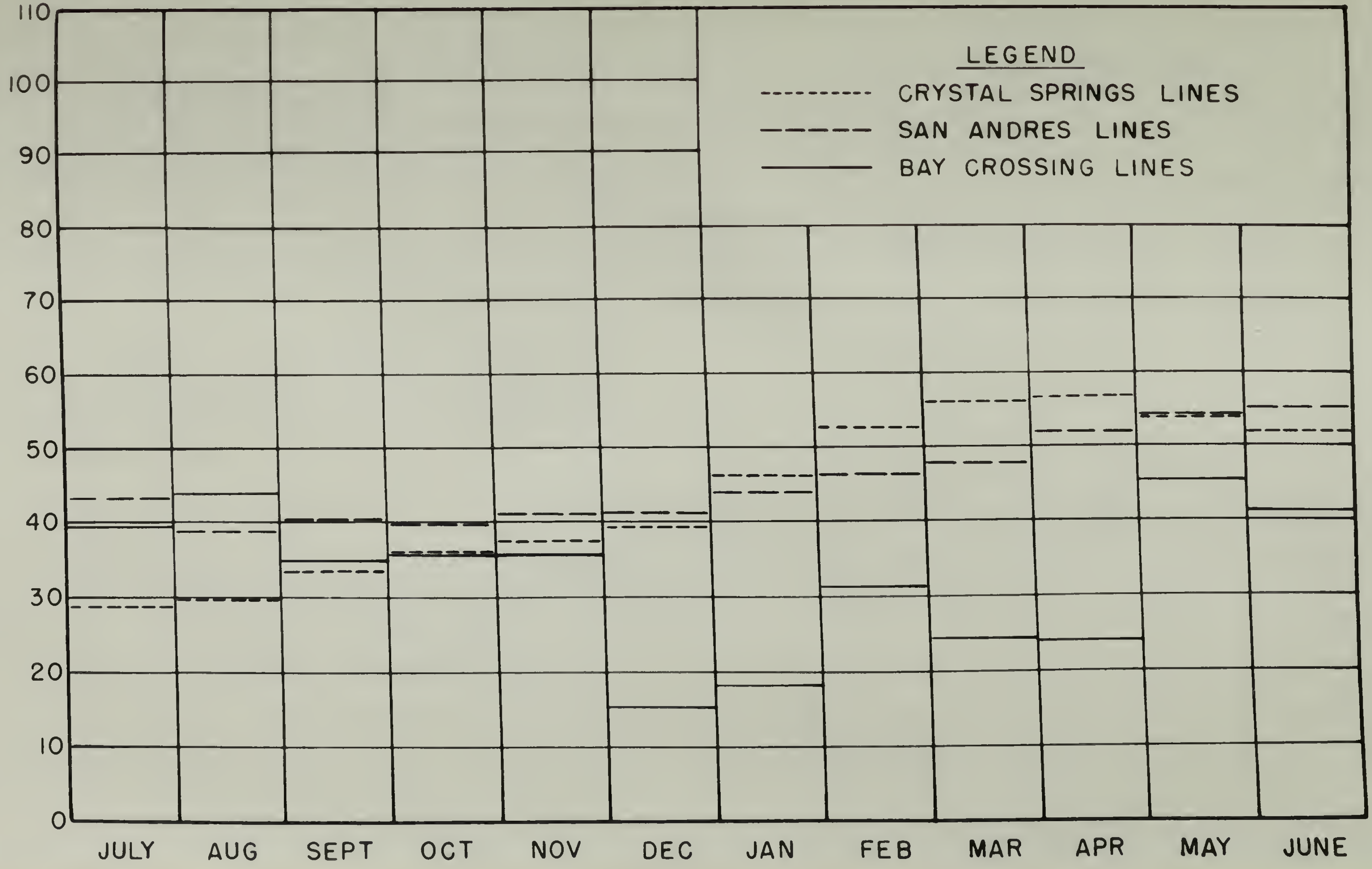
ELECTRICAL CONDUCTIVITIES OF WATER DELIVERED TO CONSUMERS

1955—1956

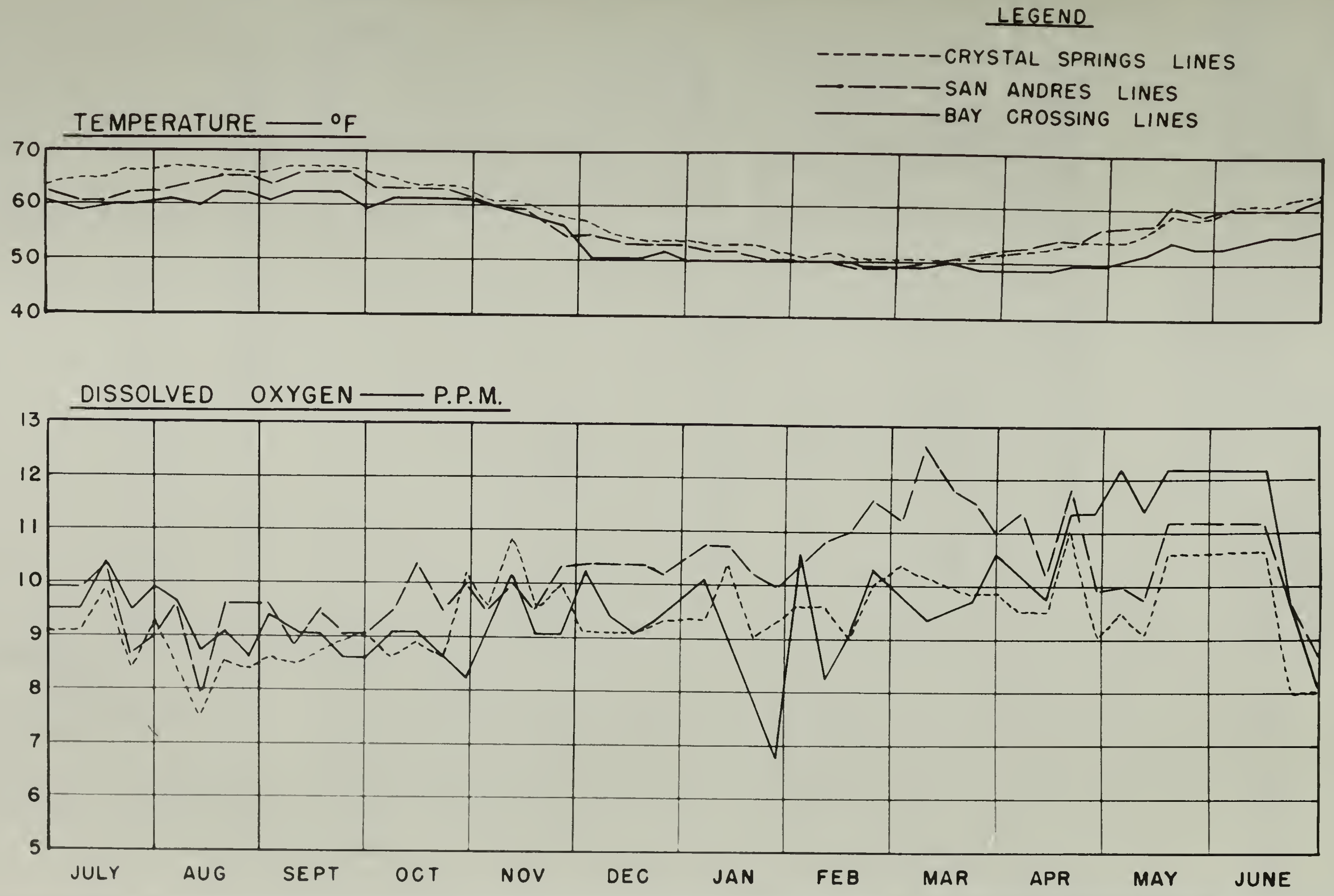


HARDNESS OF WATER
DELIVERED TO CONSUMERS 1955—1956

(MONTHLY AVERAGES—PARTS PER MILLION AS $CACO_3$)



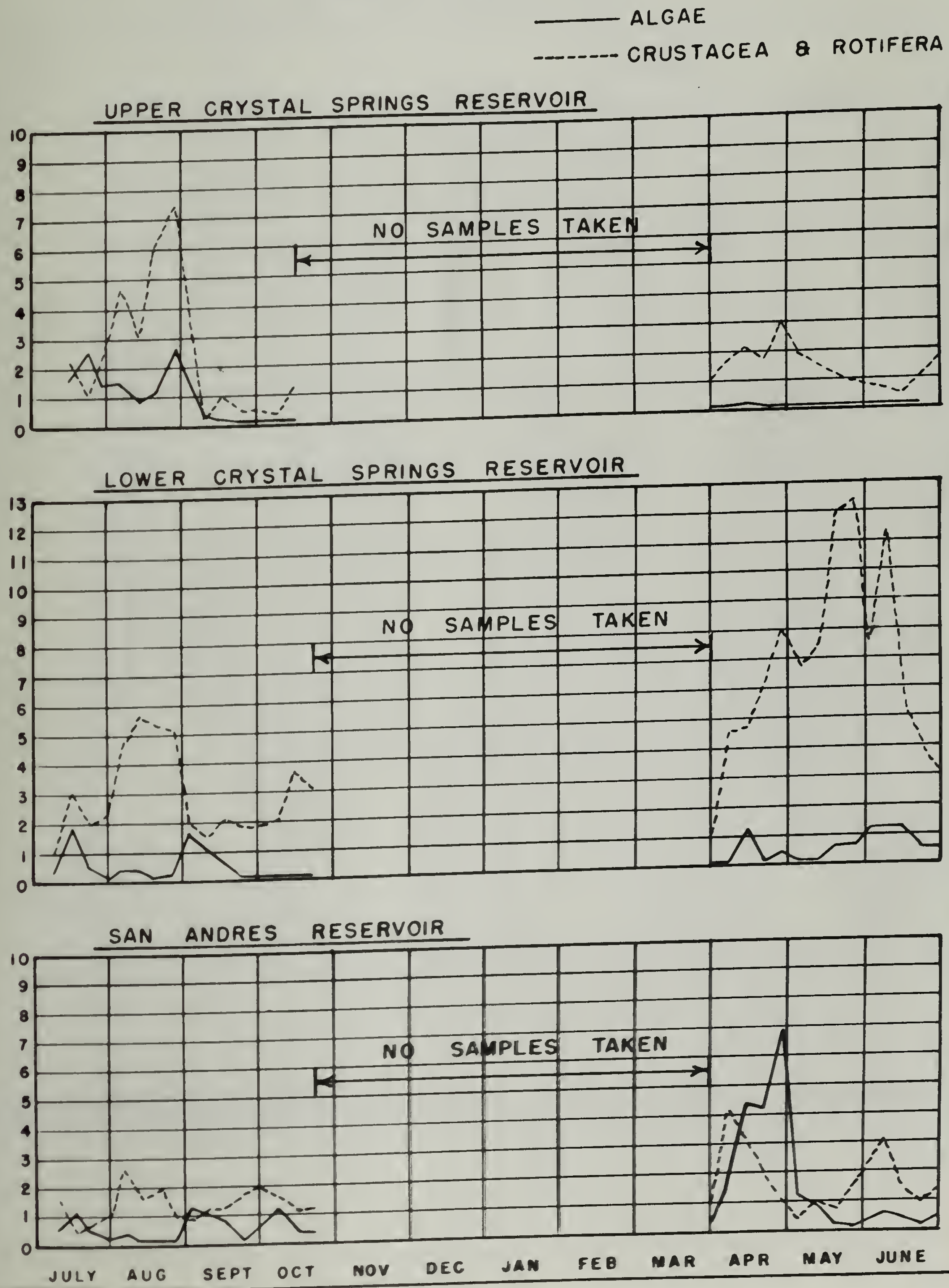
TEMPERATURE AND DISSOLVED OXYGEN OF WATER DELIVERED TO CONSUMERS 1955 — 1956



PENINSULA RESERVOIRS

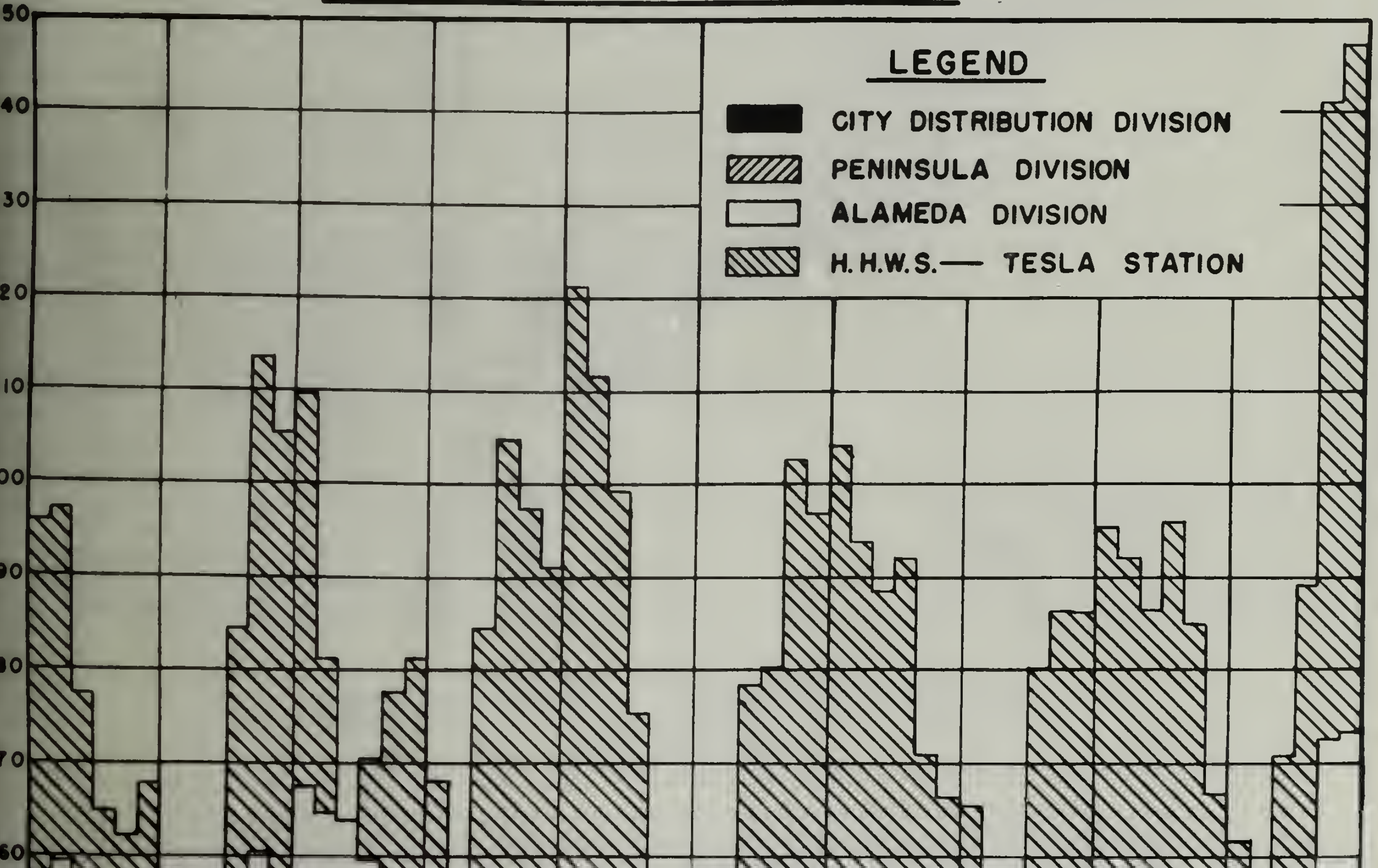
MICROSCOPICAL ORGANISMS C.C. PER CU. METER

1955—1956



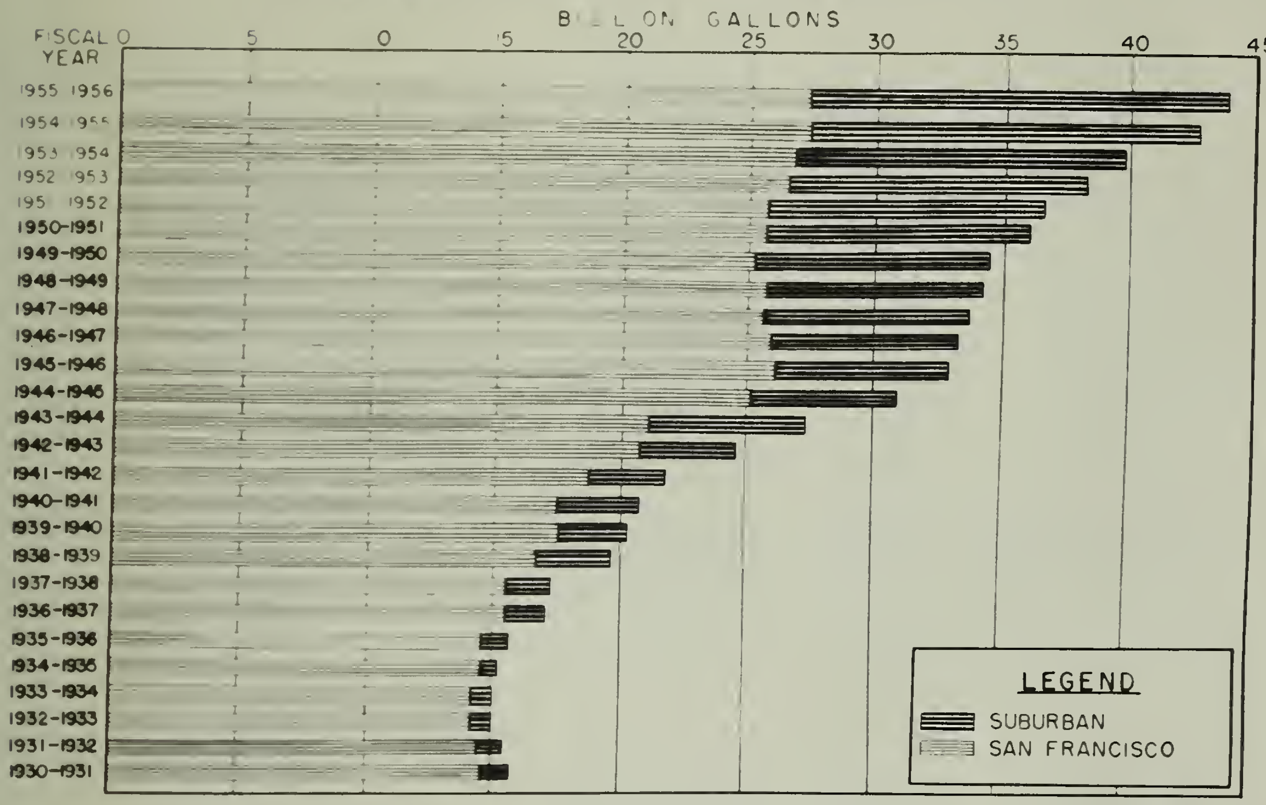
MONTHLY CHLORINE USAGE IN WATER SUPPLY SYSTEM

(PAST FIVE YEAR COMPARISON)



SAN FRANCISCO WATER DEPARTMENT

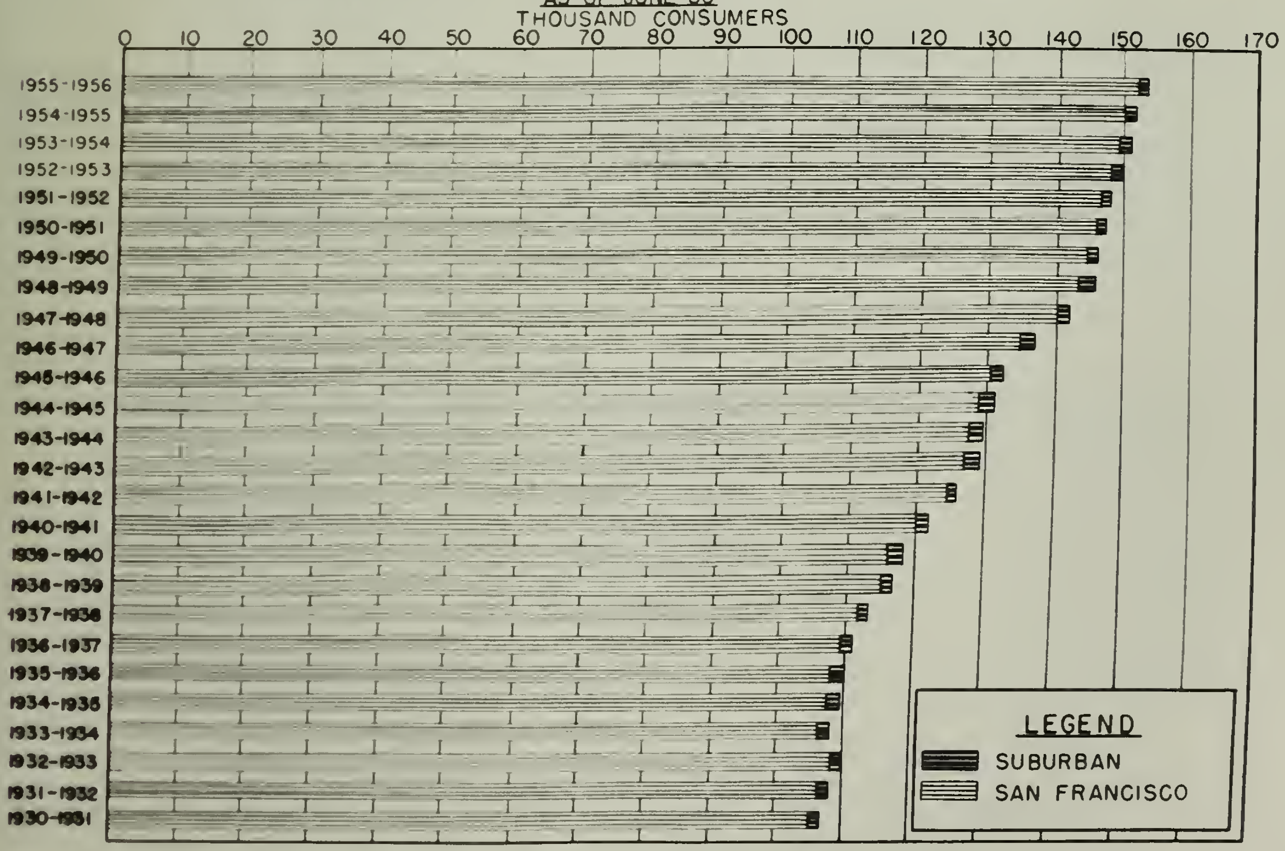
WATER DELIVERED AT CONSUMERS METERS



SAN FRANCISCO WATER DEPARTMENT

NUMBER OF ACTIVE CUSTOMER ACCOUNTS

AS OF JUNE 30



WATER SOLD IN SUBURBAN AREA
FISCAL YEAR 1955 - 1956

[illegible] 1 cu. ft. = 7.50 gal. instead of 7.48 gal.

AN MATEO COUNTY	CUBIC FEET TOTAL FOR YEAR	M.G.D.	CHARGE TOTAL FOR YEAR
MUNICIPAL UTILITIES			
City of Redwood City	230,266,600	4.71 ✓	$ 380,517.40
City of Burlingame	138,498,100	2.83 ✓	234,553.14
Town of Hillsborough	83,176,300	1.70 ✓	137,727.34
Belmont County Water Dist.	64,052,000	1.31 ✓	106,170.68
City of Millbrae	56,821,700	1.16 ✓	102,612.05
Ravenswood Water Dist.	49,590,400	1.01 ✓	82,724.83
Menlo Park Mun. Water Dist.	45,453,800	0.93 ✓	75,832.33
No. Coast Co. Water Dist.	44,187,000	0.90 ✓	73,604.20
Airport	24,129,400	0.49 ✓	47,447.77
Other Municipal Utilities	45,936,000	0.94	91,206.55
TAL MUNICIPAL UTILITIES	782,111,300	15.98	$1,332,396.29
Other Water Sold	986,458,800	20.16	1,678,661.53
TAL SAN MATEO COUNTY	1,768,570,100	36.14 .19 36.33	$3,011,057.82
NTA CLARA COUNTY			
MUNICIPAL UTILITIES			
City of Palo Alto	111,490,900	2.28	$ 186,401.63
City of Mountain View	34,578,900	0.71	67,603.54
City of Sunnyvale	34,530,700	0.70	59,469.74
Milpitas County Water Dist.	31,336,500	0.64	56,085.87
Oak Hill Mutual Water Co. (Los Altos)	410,100	0.01	1,181.32
TAL MUNICIPAL UTILITIES	212,347,100	4.34	370,742.10
Moffett Field	42,528,400	0.87	68,110.59
Other Water Sold	2,966,900	0.06	9,315.99
TAL SANTA CLARA COUNTY	257,842,400	5.27	$ 448,168.68
AMEDA COUNTY			
MUNICIPAL UTILITIES			
Hayward Mun. Water System	171,362,100	3.50	$ 278,322.84
Alameda County Water Dist.	32,062,100	0.66	62,612.82
City of Pleasanton	4,526,300	0.09	8,842.33
TAL MUNICIPAL UTILITIES	207,950,500	4.25	$ 349,777.99
Other Water Sold	19,411,600	0.40	44,966.90
TAL ALAMEDA COUNTY	227,362,100	4.65	$ 394,744.89
TAL WATER SOLD SUBURBAN AREA	2,253,774,600	46.06	$3,853,971.39

These quantities are measured by the consumers meters and at ast 10% must be added to them in order to determine the quantities water required to be produced and released for consumption in ch case. This is true for all quantities of water shown in this 'istribution and Consumption" section of the Annual Report.

DISTRIBUTION AND CONSUMPTION

GENERAL:

Outside of the City of San Francisco the Department distributes water in Garden Village, Northern San Mateo County and in Sunol, Alameda County. Sunol distribution was an obligation of the Spring Valley Water Company assumed by the City. All other suburban customers buy water delivered to them at our transmission mains and distribution is through consumer owned facilities.

The consumption figures given in "Production and Transmission" are the quantities delivered for consumption as measured by Venturi meters or other means in the transmission facilities. This section gives the quantities measured by the consumers' meters and is the basis for payment. Another difference is the area and number of consumers considered as being in the City of San Francisco. Due to the locations of transmission line meters the consumption, and a large portion of the inhabited area of the northerly 47 square miles of San Mateo County, is included in the City consumption quantities in the "Production and Transmission" section.

The Sunol distribution system, in the Alameda Division, caused no unusual maintenance or operation problems. A total of 21.5 million gallons was delivered to the Sunol System for disbribution.

In the City of San Francisco, there were no "no water" complaints due to the inadequacy of the system.

RESERVOIRS AND TANKS:

Sutro Reservoir was placed in full service in 1956 with the supply for the last seven months of the year coming from the Lake Merced Pump station. For the first five months of the fiscal year it was supplied by Central Pumps through the Stanford Heights Reservoir District.

On December 14, 1955 the entire Presidio Heights District was transferred to Sutro. This District was formerly supplied from Stanford Heights Reservoir through pressure regulators located at Washington and Lyon Streets. These regulators have been removed.

With the introduction of the Sutro Reservoir district, the Presidio Heights and the Clarendon Heights tanks have been taken out of service.

FEEDER MAINS:

The need for new feeder mains and their change over from one reservoir to another is set up in the "Additions, Betterments and Replacements" section.

PIPE SYSTEM:

The pipe system is gradually being improved by normal main extensions and the replacement of 4-inch and smaller mains with 6-inch and 8-inch cast iron mains. This latter program is being carried on, particularly, in areas where the Department of Public Works is reconstructing and repaving city streets. Shortage of funds prevents the Department from taking full advantage of this economical opportunity to replace small, inadequate mains.

Pipe tables showing lengths of various sized pipe laid, removed or abandoned and totals in the system, together with valve record, is to be found in the Appendix.

PUMP STATIONS:

The steam turbine pumps at Central Pump Station were taken out of service, the boilers, pumps, etc., were cleaned and coated to prevent deterioration. The two automatically controlled electric motor driven pumps are being used to supply Stanford Heights Reservoir.

The Lone Mountain and Crocker-Amazon hydro-pneumatic pump stations were placed in service as were McLaren Park and Summit Pump Stations. These four are automatically controlled stations.

Due to the extension of the Sutro Reservoir district to the north of the Panhandle, Francisco Reservoir Pump station was taken out of service.

SERVICES AND METERS:

Forty one new Suburban services were installed during the year, using two or more meters in each of 6 of them, with a total of 50 meters from 5/8 inch through 8-inch. Eight services were enlarged and 55 were discontinued, leaving a net reduction of 14 service connections to the transmission lines for a total of 735 on June 30, 1956. On that date there were 1,064 meters in service in the Suburban area, including those temporarily shut off.

In the San Francisco District there were 1,466 orders for new services to be installed during the fiscal year and, in addition, there were 31 new automatic sprinkler installations requested. On June 30, 1956 there were 154,218 net metered live services not including 640 automatic sprinkler installations. At the end of the year there were 156,058 meters in service in San Francisco, including those temporarily shut off.

The Consumers' Servicemen made 30,000 calls during the year. While most of these calls were for the purpose of turning on or shutting off water and reading meters for closing bills, all at customers' requests, a great many calls were made in response to complaints.

Active accounts in the suburban area decreased from 738 to 724 during the year, a decrease of 14. In San Francisco active accounts increased from 150,860 on June 30, 1955 to 152,053 on June 30, 1956, a gain of 1,193. For the entire system, the net increase was 1,179 or 0.8%.

All meter readings continue to be audited and, where any of the readings appear to be at variance with the usage normally expected, billing is usually held up pending an inspection by a Water Service Inspector. Some 20,585 accounts were handled in this manner, most of which were found to be above normal usage because of extra usage by the customer or because of house pipe or fixture leaks usually not known by the customer, or were found to be below normal usage because of less usage or non-registering meters. This procedure continues to find favor with our customers who have larger than normal usage, for they appreciate our interest in checking on the larger usage and, where leaks are found, can make immediate repairs thereby arresting further excess billing. In addition 5,978 call backs were required where the regular Meter Readers, for various reasons, could not obtain readings on their regular calls and it was not deemed advisable to issue estimated bills. Altogether, 35,915 inspections of varying degree were made, including those requested by customers.

The number of domestic services installed during the fiscal year are shown below:

TABLE "A"

NEW SERVICES
SAN FRANCISCO

Size Service	1952-53	1953-54	1954-55	1955-56
3/4"	2125	1971	1811	1133
1"	427	628	749	993
1½"	78	119	139	137
2"	40	54	57	61
3"	15	16	16	16
4"	19	13	20	8
6"	3	6	15	3
8"	2	2	11	0
12"	0	0	0	1
Total	2709	2809	2818	2352
% of 3/4"	78.5	70.2	64.3	48.2
% of 1"	15.8	22.3	26.6	42.2

Percentagewise, the amount of 3/4" services is decreasing, while the 1" service installations are increasing.

TABLE "A"(cont'd)

NEW SERVICES
SUBURBAN

Meter Size	1952-53	1953-54	1954-55	1955-56
5/8"	18	14	9	12
3/4"	-	2	3	3
1"	10	3	7	6
1½"	4	2	5	0
2"	19	17	17	10
Larger than 2"	15	11	8	10
Total	66	49	49	41

In addition to the above, eight existing services in the suburban area were enlarged.

The number of meters set during the fiscal year is shown below:

TABLE "B"

METERS SET
SAN FRANCISCO

Size Meter	1952-53	1953-54	1954-55	1955-56
5/8"	1523	1392	1405	1492
3/4"	40	34	60	32
1"	126	134	137	159
1½"	50	62	69	66
2"	216	226	178	175
3"	2	1	-	-
4"	-	-	-	1
6"	-	2	4	-
8"	2	-	-	-
Total	1959	1851	1853	1925
% 5/8"	77.7	75.2	75.8	77.5
% 3/4"	2.0	1.8	3.2	1.6
% 1"	6.4	7.2	7.4	8.4
% 1½"	2.5	3.4	3.7	3.4
% 2"	11.1	12.2	9.6	9.1

TABLE "B" (Cont'd)

METERS SET
SUBURBAN

Size Meter	1952-53	1953-54	1954-55	1955-56
5/8"	18	14	9	12
3/4"	-	2	3	3
1"	10	3	7	6
1½"	4	2	5	-
2"	22	17	43	28
3"	-	2	-	-
4"	1	1	2	1
6"	7	6	9	4
8"	6	7	-	9
Total	68	54	78	63

SERVICES AND METERS:

The number of meters changed during the fiscal year for all causes but mainly "no goes" are, as follows:

TABLE "C"

METER SET CHANGES

Meter Size	1952-53	1953-54	1954-55	1955-56
5/8"	3935	4152	3631	3141
3/4"	119	132	157	156
1"	96	94	102	112
1½"	119	79	77	65
2"	176	121	106	96
6"	1	-	-	-
8"	2	1	-	-
Total	4448	4579	4073	3570
% 5/8"	88.5	90.5	89.1	88.0
% 3/4"	2.7	2.9	3.8	4.4
% 1"	2.2	2.1	2.5	3.1

The following table shows the number of meters brought to the shop and not replaced.

TABLE "D"

METERS HOME

Meter Size	1952-53	1953-54	1954-55	1955-56
5/8"	450	444	672	553
3/4"	19	18	30	23
1"	44	27	57	43
1½"	16	31	21	19
2"	81	90	83	109
3"	2	1	-	-
4"	5	-	2	3
6"	-	2	3	3
8"	-	-	-	1
Total	617	613	868	754
% 5/8"	73.0	72.5	77.4	73.3
% 3/4"	3.1	2.9	3.5	3.0
% 1"	7.1	4.4	6.6	5.7

The number of Fire Sprinkler Services installed during the year is shown in Table 18 in the Appendix.

The number of abandoned domestic services for all causes is shown in Table "F":

TABLE "F"

ABANDONED DOMESTIC SERVICES
SAN FRANCISCO

Size Service	1952-53	1953-54	1954-55	1955-56
3/4"	1108	1582	1606	916
1"	45	94	69	85
1½"	10	23	19	12
2"	4	7	5	11
3"	-	1	1	-
4"	1	-	1	-
6"	-	-	-	-
8"	-	-	-	-
Total	1168	1707	1701	1024
% 3/4"	94.8	92.8	94.4	89.4
% 1"	4.5	5.5	4.1	8.3

Table "F" is of interest only in that it indicates an increasing rate of service pipe abandonments. This table should be reviewed in conjunction with Table No. 22 in the Appendix, "Complaints - Poor Supply." The data in the two tables do not exactly coincide. This is due to the shortage of help, leaving a backlog of service pipe abandonments each succeeding year.

MAINTENANCE AND OPERATION:

The Corporation Yard is becoming increasingly overcrowded leading to more and more confusion and delay in getting the crews out and onto their respective jobs in the mornings. Various improvements in operation have relieved the situation only temporarily.

Many of the smaller fittings have been moved to the University Mound Reservoir Lot. Also, a new program has been initiated which provides that each service truck will carry a predetermined fixed inventory covering their needs. Material will be charged against each job as used on "material used" tags. These tags will be turned in at the end of each shift. Replenishment of truck inventory will be made by the Warehouseman after the rush hours have passed. Each Serviceman will be held responsible for the materials in his fixed inventory. Checks of truck inventories will be made by the Accounting Division.

A carbide tipped, compressed air operated, portable hack saw has been developed in the Department to cut cast iron pipe in the field. The tips are replaceable. The advantages have been demonstrated over the past year which are reduction of time of shutdown by 50%, the ability to cut pipe in cramped quarters and underwater, and the elimination of the noise nuisance to the public of the old "hammer and chisel" method. It will cut unlined or cement lined cast iron pipe up to and including pipe 12-inches in diameter.

A new combination bronze fitting to connect the copper tubing service pipe to the meter stopcock was developed, reducing fitting and installation costs to some one-half of that for those used previously. The Department Machine Shop, being the low bidder, will manufacture the new fitting.

COMPLAINTS:

Tables No. 20, 21 and 22 in the Appendix give a comparison of the different types of complaints.

A change in policy was formulated for the determination of the services to be renewed. For example, only those service pipes which, on test, indicate a flow discharging into atmosphere of 11.0 gpm or less shall be renewed. A 3/4 inch service pipe shall be installed for all 5/8 inch and 3/4 inch meters.

Service calls are made as soon as possible after receipt of a complaint which results in good public relations. Many calls are preliminary and further calls are required by the Special Complaints Inspector, who made over 2,600 calls during the year. Some 1,200 of these required removal of the meter to measure the rate of flow in poor supply complaints.

Flow tests show that service pipes are, in some cases, too small and in others that the pipes are badly corroded. At the beginning of this fiscal year there was a backlog of about 220 service pipe renewal jobs. During the past two years an average of some 1,500 inadequate service pipes were renewed. At the end of this year the backlog was 200.

Large bills continue to be a major source of common complaint. Dirty water is the principle water quality complaint and was especially so during the past winter because of the turbid water conditions resulting from the heavy run-off.

Corrective measures initiated last year because of trouble with dirty meter dials are proving satisfactory. Replacement of broken meter box covers in sidewalk areas, carrying vehicular traffic, with stronger covers and thicker adjacent slabs is giving satisfactory results.

The Department has continued its courtesy policy of giving aid to our consumer cities in their investigation of water quality complaints.

CONSUMPTION:

Registration through the consumers meters in the suburban area, excluding Municipal Non-pay accounts, totaled 2,253.8 million cubic feet (16,858.4 million gallons), equivalent to an average of 46.06 million gallons per day. This is an increase over the previous year's 2,059.3 million cubic feet of 9.4%. In San Francisco the meter registration was 3,634.2 million cubic feet (27,183.8 million gallons) or an average of 74.3 million gallons per day. This is an increase over the previous year's 3,616.3 million cubic feet of 0.5%.

46.06
74.3
120.36 %
[illegible] = 18.74 = 15.6%
134.10 consumed

In 1954-55 San Francisco consumption was 63.7% and Suburban 36.3% of the total while this year the corresponding figures are 61.7% and 38.3%.

[illegible] breaks, under registration [illegible]

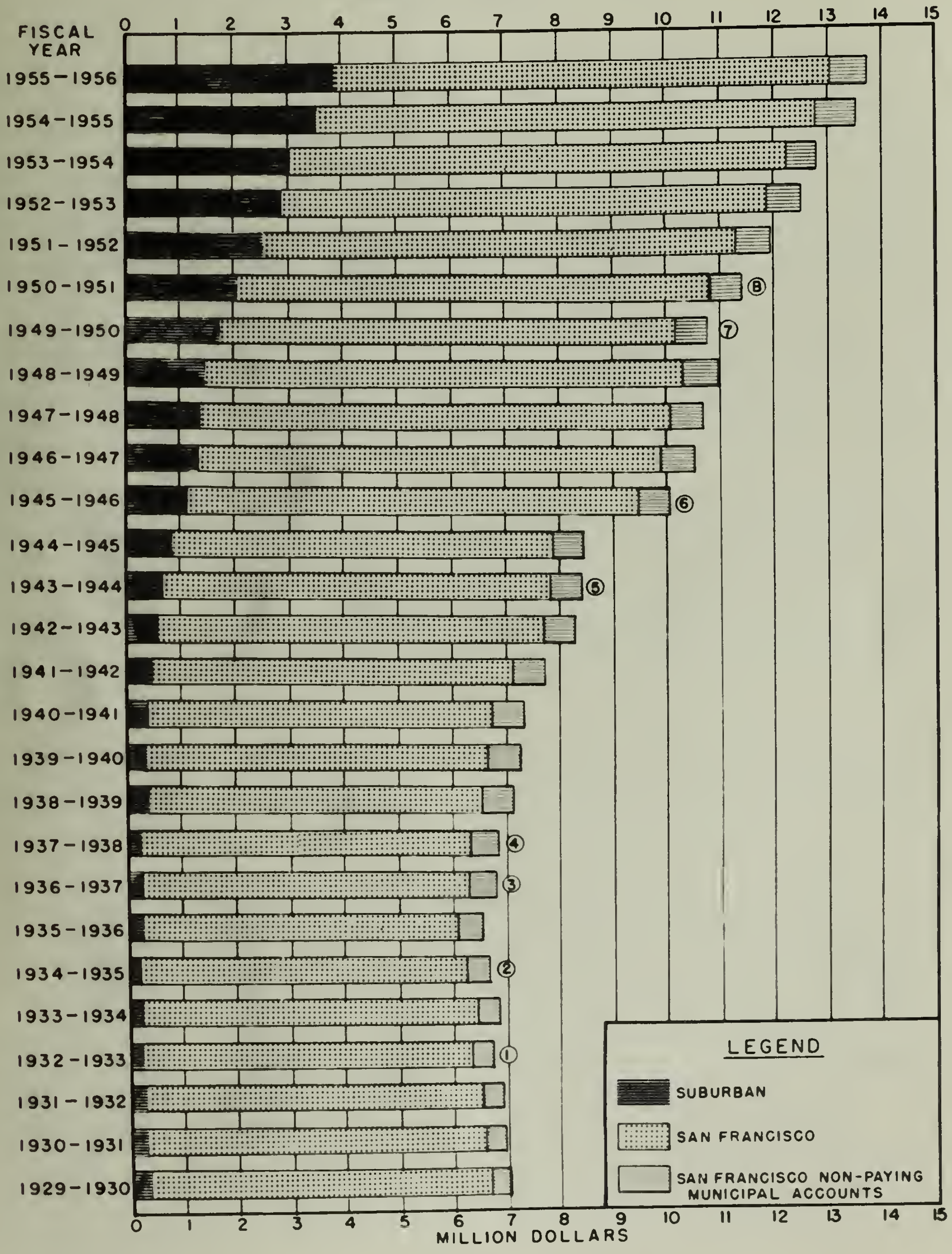
The entire system consumption increased from 5,675.6 million cubic feet for 1954-55 to 5,888.0 million cubic feet for 1955-56, an increase of 212.4 million cubic feet (1,585.76 million gallons) or 4.3 million gallons per day.

Included in the foregoing was water delivered to Municipal Utilities and Water Districts in the Suburban area, taking water for resale in an amount of 1,209.4 million cubic feet (9,046.3 million gallons), or 24.7 million gallons per day. Water delivered to private utilities in the same area totaled 924.4 million cubic feet (6,914.5 million gallons) or 18.9 million gallons per day.

A table showing the quantities of water sold to various suburban consumers in cubic feet for the year, in million gallons per day and total charges, is included in this year's report for the first time. This is the table on Page 37.

SAN FRANCISCO WATER DEPARTMENT

WATER SALES



RATE CHANGES:—

① — OCT. 26, 1932 75% REDUCTION ON FIRE SPRINKLER SERVICE CHARGES.
② DEC. 1, 1934 10% REDUCTION ON ALL RATES EXCEPT HYDRANTS AND SPRINKLERS.
③ JAN 1, 1937 7% & 48% REDUCTION ON INCREASED USAGE AT INDUSTRIAL & WHOLESALE RATES.
④ JAN. 1, 1938 7% & 48% REDUCTION APPLIED TO ALL " " " " " "
⑤ DEC. 1, 1943 15% REDUCTION TO ALL CONSUMERS WITHIN CITY & COUNTY OF SAN FRANCISCO.
⑥ SEPT. 1, 1945 PRECEDING 15% REDUCTION REMOVED FOR CONSUMERS WITHIN CITY & COUNTY OF SAN FRANCISCO. 15% INCREASE FOR SUBURBAN CONSUMERS.
⑦ ~~JULY 1, 1949 INCREASE OF HALF CENT PER 100 CU. FT. - SAN CARLOS & SAN MATEO.~~ DELETED 7-1-53
⑧ FEB. 1, 1951 INCREASE FOR FOURTH BLOCK WATER TO 15 CENTS FOR CITY & 16 CENTS FOR SUBURBAN;
10% DISCOUNT ON FOURTH BLOCK IF WATER WERE NOT TAKEN FOR RESALE
⑨ JULY 1, 1952 BEGAN CHARGING REGULAR RATES TO 14 CONTRACT REDUCED RATES CONSUMERS

REVENUE

WATER SALES:

Sales of water to our customers during the fiscal year 1955-1956 grossed $13,813,892. Our policy of allowing credits on customers' bills, where leakage occurred in house piping or fixtures, resulted in customers' savings of $25,519 so that Net Sales amounted to $13,788,373. This was an increase over the previous year of $364,903 or 2.72%. Net Sales in San Francisco, including $740,038 to other Municipal Departments in lieu of taxes, amounted to $9,935,075 or 72.1% of the total. Suburban Net Sales accounted for $3,853,298 or 27.9% of the total.

Included in the above was $2,060,028 derived from sale of water to Municipal Utilities and Water Districts in the Suburban Area. This is an increase of $231,241. Revenue from sale of water to private utilities amounted to $1,540,556, an increase of $88,247.

Customers' Accounts Receivable showed a balance of $880,778 due the Department at June 30, 1956. Again, this shows that over one third of our June billing was paid before the end of the month, for this balance was only 66.23% of our June charges. Collections for the year were $13,047,724, an increase of $255,332. There were 938,409 bills issued during the year of which 883,232 were for bi-monthly accounts and 55,177 for monthly accounts.

Some 19,528 closing bills were issued during the year. Uncollectible bills totaled $8,105, being only 0.06% of Sales. The Suspense balance, consisting of closed accounts awaiting collection or write-off, was $12,658 at June 30, 1956.

As previously reported, the City Attorney rendered an opinion on July 1, 1952 advising that water supplied under certain so-called reduced rate and free water contracts was actually subject to our regular rate schedule. Suit was filed to nullify the contracts, and backbilling for two years in the total amount of $123,623.26 was rendered. A subsequent ruling resulted in a reduction of this backbilling to $103,581.61. Payments of $443.14 "under protest" and conclusion of the Borel and Henry contracts, resulting in further reduction of the backbilling, left a balance of $97,165.88 due the Department for outstanding backbilling at July 1, 1955. During the past year, the Consolidated Chemical Industries matter was concluded. As result, a further reduction has taken place so that the outstanding backbilling was $95,818.07 at June 30, 1956.

Billing at regular rates continued, during the fiscal year, on the remaining former "contract" accounts. Total amount billed during the year was $728,172.28 which provided $61,318.72 more revenue than that which would have been billed under the "contract" rates. In the four years since regular billing began on the "contract" accounts, charges at regular rates have produced $216,321.28 in "additional" revenue. This excluded all

"additional" revenue from the Borel and Consolidated accounts which, as reported above, have been settled. These accounts, on past experience, average approximately $4,000 per year in combined "additional" revenue over that formerly received.

OTHER INCOME:

Revenue from rentals, royalties and taxes paid by tenants amounted to $220,832.44 for the year which is $35,630.56 less than the previous year. Rentals from Agricultural leases decreased a net of $6,207.00 even though Share Crop rentals increased $15,243.36. The largest drop in this classification was in Specialty Crop rentals, a decrease of $9,350.00, while Flat Rates and Cattle Leases showed smaller drops.

Specialty Crop Leases (rentals run from $60.00 to $125.00 per acre) are not being renewed on expiration because of the objections of the Controller to the use of water on the City's agricultural lands. Replacement leases are for low return (from $2.00 to $20.00 per acre), dry farming use which accounts for most of this loss.

Royalties from Rock Quarries account for the drop in Non-Agricultural Lease income, this mainly due to a slackening of operations at the so-called Lowrie Quarry.

As a result of damage to the walnuts from a heat wave, gross returns from the walnut orchards show a decrease of $5,481.10 as compared to last year. However, net cash received was $382.97 more than for 1954-55.

Miscellaneous receipts, from the Crystal Springs Golf Course and the California Book Store, increased $3,265.31 over the previous year.

Interest on bank balances increased over the previous year by $1,351.16 to $18,457.35.

Receipts from the sale of lands during the year accounted for $55,206.53 of the $71,511.96 received in the "Miscellaneous" category of "Other Income". The balance is from smaller items including rentals from Department owned cottages that are occupied by employees.

CLAIMS

Claims filed by the Department during the year against others, principally street work contractors, who damaged our facilities amounted to some 72 in number for a total of $8,314.88. Including the balance pending at the beginning of the year, 122 claims were processed against others in the total sum of $16,192.67. Of these, payment in full was received on 58 claims and only 3 were required to be compromised. Amounts received totaled $7,451.16 and only $316.30 was allowed in compromise. Claims against others pending at June 30, 1956 were 61 in number and $8,425.21 in amount.

During the year, 168 claims in the total amount of $151,903.36 were filed against the Department. Claims pending at the beginning of the year numbered some 145 for a total of $258,009.68 so that some 313 claims in the total amount of $409,913.04 were processed. Of these, 75 claims in the sum of $88,546.12 were denied. Another 100 claims totaling $40,103.09 were settled for $14,005.79 so that the total saving to the Department on claims denied and settled was $114,643.42. Three claims totaling $1,751.34 involved automobile accidents and were turned over to our insurance carriers. At June 30, 1956, 135 claims, in the sum of $279,512.49, remained. Of these, however, 105 claims, totaling $246,544.84, were in connection with the former "contract" accounts referred to in a previous paragraph, so that 30 claims in the total amount of $32,967.65 remained as result of the Department's operations.

In addition to the foregoing, 207 cases of damage were invetigated on which no formal claims were filed. Also processed and routed for proper handling were 3,479 reports of dangerous conditions of the Department's facilities. This was in line with our policy of safeguarding our installation, so far as we can, before accidents happen, rather than after.

ADDITIONS, BETTERMENTS AND REPLACEMENTS

Plans and specifications were prepared for 37 formal and 5 informal Water Department contracts for a total estimated construction cost of $2,862,000. Engineering supervision and inspection services were provided for $1,670,000 of contract work actually completed during the year. Of the 37 formal contracts for which plans and specifications were prepared during the fiscal year 1955-56, 25 were for water main extensions.

Six of these extensions were awarded to the Water Department in an amount totaling $93,317.50. Four were completed during the year at a cost of $59,276.91 or $20,283.09 less than the bid price of $79,560.00 for the four. The other two extensions had not been started on June 30.

A survey of proposed capital improvements to the water system was made, in connection with budgetary and city planning purposes, for the period beginning July 1, 1957 and ending June 30, 1963. Water Department requirements for this period were estimated at some $38,600,000 worth of improvements having varying degrees of urgency. A number of the more essential projects programmed to start in that time and for which funds are needed in whole or in part include the following projects:

Project	Total Estimated Cost July 1, 1957 to June 30, 1963
Corporation Yard	$ 1,800,000.00
Portions of Crystal Springs Pipeline No. 3	7,130,000.00
Crystal Springs Aqueduct; force main and pumps	1,850,000.00
Sunset Reservoir - So. Basin	3,650,000.00
Bay Division Pipeline No. 4	15,000,000.00
San Antonio Dam and Appurtenances	5,000,000.00

During 1955-56 construction was started on Hillsborough Tunnel to be used for transporting Crystal Springs water under a part of the town of Hillsborough for delivery through the Sunset and Crystal Springs Pipelines to Lake Merced Pumps and University Mound Reservoir as well as to suburban consumers.

Excavation and embankment for the South Basin of Sunset Reservoir was 14% completed at the end of the year and the Balboa Reservoir site was being cleared.

Crystal Springs Pipeline No. 2 was relaid in solid ground around Guadalupe Marsh. This 60-inch pipeline is now in solid ground for its entire length. Another 60-inch pipeline is being installed parallel to the No. 2 line to be used as a part of Crystal Springs Pipeline No. 1.

The San Andres Branch of the Sunset Pipeline was completed this year. This 60-inch pipeline will deliver San Andres water to the Sunset Supply Line which, in turn, can carry this water by gravity to Sunset Reservoir and provide water for Sutro Reservoir via the Lake Merced Pump Station.

No new electrolysis survey of the piping system was made during this fiscal year, only the necessary inspection and maintenance of the existing installation was undertaken.

Diking of right of way property at Ravenswood was completed. This eliminates the rapid deterioration of trestle and pipe by frequent wetting from higher tides. This levee was constructed in three lifts over a period of some 14 months to allow for settling of the earth.

The Crystal Springs and San Andres Outlet No. 1 Fluoride Treatment Plants were constructed and put into operation this year. Equipment at the University Mound plant was removed and reinstalled at the San Andres Outlet No. 1 plant. Three plants were in operation at the end of the year with capacity to treat all water drawn from those two reservoirs.

From past experience a hot spell of several days' duration would create a serious situation throughout the City. This condition can only be overcome by the laying of additional feeder mains in the various distribution districts, as well as the rearrangement of the existing feeder mains. Additional supply mains should also be given consideration. Funds were made available in the budget for the laying of some of the feeder mains.

Following is a list of additional feeder mains still required, by districts:

Sunset Reservoir District	Feet
12" - O'Farrell & Octavia to O'Farrell & Larkin	2400
12" - Dolores & 21st St. to Dolores & 24th St.	1700
University Mound Reservoir District	
16" - 22nd & Indiana Sts. to 22nd & 3rd Sts.	800
12" - Woolsey & Goettingen to Jamestown & 3rd St.	4000
College Hill Reservoir District	
12" - Webster & Hayes to Grove & Buchanan	1000
16" - Bowdoin & Alemany to Girard & Mansell	7000

Following is a list of feeder mains which will be transferred from one district to another for better distribution and which will be accomplished when the fore-mentioned feeder mains have been laid:

	LOCATION		RESERVOIR	
Size	From	To	From	To
16"	Larkin & Jackson	Larkin to Francisco	P.H.Regulators	Sunset
12"	Post & Powell	Post & Kearny	University Mound	College Hill
12"	Stockton & Post	Stockton & Sutter		
12"	Larkin & Post	Larkin & O'Farrell	College Hill	Sunset
12"	O'Farrell & Larkin	Jones & Geary		
12"	Leavenworth & O'Farrell	Leavenworth & Geary		
12"	Post & Fillmore	Buchanan & O'Farrell		
16"	Fillmore & Bush	Fillmore & Hayes		
12"	24th St. & Sanchez	24th St. & Dolores		
12"	O'Farrell & Fillmore	O'Farrell & Buchanan		
12"	17th St. & Pond	17th St. & Douglass	Stanford Hts.	Sunset
12"	17th St. & Douglass	17th St. & Ashbury	Stanford Hts.	Sunset
12"	Douglass & 24th St.	22nd St. & Diamond		
12"	Plymouth & Lobos	Ridgewood & Mangels		
20"	Lyon & Washington	Ashbury & 17th St.		
16"	Kirkham & 8th Ave.	20th Ave. & Moraga		
20"	20th Ave. & Moraga	Taraval & Dewey		
12"	Octavia & O'Farrell	Octavia & Ellis	Sunset	College Hill
12"	Ellis & Van Ness	Ellis & Laguna		
30"	Sloat & 23rd Ave. (Central Pumps)	Portola & Claremont	Sunset	Sutro
30"	Santa Clara & Portola	Capitol & Sadowa		
12"	Ocean & Faxon	Ocean & Harold		

Again, this year, several of the proposed feeder mains could not be installed due to the condition of the proposed route, i.e. the 12" cast iron feeder from Oneota and University to Harkness and Goettingen, because the streets are not to grade; the 12" cast iron main from O'Shaughnessy and Portola to Mangels and Ridgewood could not be laid due to the proposed reconstruction of O'Shaughnessy Boulevard.

FORMAL CONTRACTS:

1. Additions to City Pipe System:

In all contracts involving the laying of cast iron or transite pipe or the installation of services, the Contractor is required to obtain the pipe and fittings from the Water Department. The cost of this material, of connections made by the Department's forces, and of engineering and inspection are included in the following stated contract costs. In cases where the Water Department acts as the Contractor, the cost given is the actual cost of the completed work.

Extensions and replacements to the Department's distribution grid system are made under contract, the Department furnishing all necessary pipe, fittings and services material. The value of these items, and the engineering and inspection costs are set up in the contract bid sheets in a manner so that the "bid total" includes the cost of furnished items, engineering and inspection, and the summation represents the total cost to the Department for the facility. On most of this class of work the Water Department submits a bid and does the work if its bid is the lowest of those received.

Contract No. 706 - For the installation of 4 services and the laying of 1,461 feet of 8-inch cast iron main in Alemany Housing Project. The contract was awarded to E. J. Treacy on November 22, 1954 and completed on July 22, 1955 at a cost of $7,524.90.

Contract No. 710 - For the installation of 11 services and the laying of 418 feet of 6-inch and 389 feet of 8-inch cast iron main in Griffith Street and Fitzgerald Avenue and in Harvard Street between Bacon and Burrows Streets. The contract was awarded to Fred T. Fairey on February 21, 1955 and completed on September 7, 1955 at a cost of $4,394.12.

Contract No. 711 - For the installation of 63 services and the laying of 550 feet of 6-inch and 1,170 feet of 8-inch cast iron main in Leland Avenue between Delta and Bayshore Boulevard. The Contract was awarded to the San Francisco Water Department on April 27, 1955 and completed on June 29, 1955 at a cost of $14,776.90.

Contract No. 712 - For the installation of 115 services and the laying of 2,266 feet of 6-inch, 3,697 feet of 8-inch, 891 feet of 12-inch and 1,132 feet of 16-inch cast iron mains in portions of Midtown Terrace Subdivision Nos. 3 and 4. The contract was awarded to Fred T. Fairey on March 14, 1955 and completed on July 6, 1955 at a cost of $46,284.27.

Contract No. 713 - For the laying of 1,398 feet of 12-inch cast iron mains in Oxford and Felton Streets between Silver Avenue and Cambridge Street. The contract was awarded to Michael Murphy, Jr. on May 16, 1955 and completed on July 19, 1955 at a cost of $15,178.99.

Contract No. 714- For the laying of 1,242 feet of 6-inch cast iron mains in Chestnut Street between Fillmore and Laguna Streets. The contract was awarded to E. J. Treacy on March 7, 1955 and completed on October 27, 1955 at a cost of $6,333.27.

Contract No. 715 - For the laying of 997 feet of 8-inch cast iron mains in Ingalls Street from Fitzgerald Avenue to Egbert Avenue and Schwerin Street south of Sunnydale Avenue. The contract was awarded to Michael Murphy, Jr. on May 9, 1955 and completed on July 6, 1955 at a cost of $8,672.86.

Contract No. 720 - For the laying of 1,860 feet of 16-inch cast iron mains in Marview Way and Palo Alto Avenue from Aquavista Way to Summit Reservoir. The contract was awarded to Associated Pipeline, Inc. on July 18, 1955 and completed on December 2, 1955 at a cost of $26,547.84.

Contract No. 721 - For the installation of 10 services and the laying of 306 feet of 6-inch and 114 feet of 8-inch cast iron mains in Oakdale Avenue between Quint and Phelps Streets and in Missouri Street between Sierra and 22nd Streets. The contract was awarded to Michael Murphy, Jr. on May 9, 1955 and completed on July 14, 1955 at a cost of $3,589.15.

Contract No. 723 - For the installation of 107 services and the laying of 1,230 feet of 6-inch, 4,410 feet of 8-inch and 1,551 feet of 16-inch cast iron main in the Second Portion of Midtown Terrace Subdivision Nos. 3 and 4. The contract was awarded to Fred T. Fairey on July 5, 1955 and completed on September 29, 1955 at a cost of $46,706.10.

Contract No. 724 - For the installation of 7 services and the laying of 379 feet of 6-inch and 782 feet of 8-inch cast iron mains in 25th Street between Iowa and Tennessee Streets and in Stanley and Bright Streets. The contract was awarded to Michael Murphy, Jr. on June 13, 1955 and completed on October 17, 1955 at a cost of $7,645.58.

Contract No. 725 - For the laying of 1,171 feet of 6-inch cast iron main in 43rd Avenue between Judah and Lawton Streets. The contract was awarded to Associated Pipelines, Inc. on June 13, 1955 and completed on August 1, 1955 at a cost of $9,862.24.

Contract No. 727 - For the laying of 1,303 feet of 6-inch and 279 feet of 8-inch cast iron mains in Charter Oak Avenue, Helena Street, Parnassus Avenue and Shrader Street. The contract was awarded to Associated Pipelines, Inc. on August 1, 1955 and completed on November 21, 1955 at a cost of $11,893.76.

Contract No. 728 - For the installation of 16 services and the laying of 122 feet of 4-inch, 843 feet of 6-inch and 293 feet of 8-inch cast iron mains in Mangels, Nordhoff to Hamerton and in Baden, Mangels to Joost Avenue. The contract was awarded to Fred T. Fairey on July 25, 1955 and completed on October 28, 1955 at a cost of $9,307.77.

Contract No. 729 - For the installation of 32 services and the laying of 1,099 feet of 6-inch and 292 feet of 8-inch cast iron mains in Dwight, Bright and Hudson Streets. The contract was awarded to the San Francisco Water Department on August 22, 1955 and completed on March 26, 1956 at a cost of $8,413.48.

Contract No. 731 - For the laying of 4,254 feet of 12-inch cast iron mains in California Street between 4th and 18th Avenues. The contract was awarded to Associated Pipelines, Inc. on September 26, 1955 and completed on January 19, 1956 at a cost of $46,470.58.

Contract No. 732 - For the installation of 57 services and the laying of 1,426 feet of 6-inch and 365 feet of 8-inch cast iron mains in Winfield, Coso, Stoneman, Manchester, Ripley and Alabama Streets. The contract was awarded to Michael Murphy, Jr. on September 26, 1955 and completed on November 22, 1955 at a cost of $17,486.35.

Contract No. 735 - For the installation of 19 services and the laying of 2,742 feet of 6-inch and 299 feet of 8-inch cast iron mains in Fillmore, North Point, Brunswick Streets and the Embarcadero. The contract was awarded to Fred T. Fairey on October 10, 1955 and completed on January 13, 1956 at a cost of $27,013.22.

Contract No. 737 - For the installation of 15 services and the laying of 450 feet of 6-inch cast iron main in Molimo Drive north of Myra Way. The contract was awarded to the San Francisco Water Department on October 31, 1955 and completed on June 27, 1956 at a cost of $2,874.70.

Contract No. 739 - For the installation of 51 services and the laying of 2,650 feet of 6-inch and 8-inch and 1,550 feet of 12-inch cast iron mains in Panorama Terrace No. 1. The contract was awarded to Fred T. Fairey on November 21, 1955 at an estimated bid price of $31,308.25. On June 30, 1956 the work was 80% completed.

Contract No. 743 - For the installation of 16 services and the laying of 566 feet of 6-inch and 527 feet of 8-inch mains in Dalewood Way east of Lansdale and in Marine Street, Michigan to Maryland. The contract was awarded to Fred T. Fairey on November 21, 1955 and completed on March 12, 1956 at a cost of $6,536.36.

Contract No. 744 - For the laying of 6,100 feet of 12-inch cast iron mains in 8th Avenue between California and Fulton Streets and in California Street between 23rd and 29th Avenues. The contract was awarded to Michael Murphy, Jr. on December 12, 1955 at an estimated bid price of $63,107.50. On June 30, 1956 work had not been started.

Contract No. 745 - For the installation of 37 services and the laying of 1,150 feet of 2-inch and 6-inch cast iron mains in Thrift Street between Plymouth Avenue and Summit Street and in Alpha Street between Wilde and Tucker Avenues. The contract was awarded to the San Francisco Water Department on December 27, 1955 at an estimated bid price of $8,458.25. On June 30, 1956 the work had not been started.

Contract No. 746 - For the installation of 164 services and the laying of 3,207 feet of 6-inch and 389 feet of 8-inch cast iron mains in Anderson, Ellsworth, Gates, Folsom, Marsilly, Chenery and Arlington Streets. The contract was awarded to Michael Murphy, Jr. on December 27, 1955 and completed on March 30, 1956 at a cost of $35,330.91.

Contract No. 747 - For the laying of 638 feet of 6-inch and 1,050 feet of 8-inch cast iron mains in Baker, Broderick, Clayton and Hayes Streets. The contract was awarded to the San Francisco Water Department on January 16, 1956 and completed on March 7, 1956 at a cost of $13,233.04

Contract No. 748 - For the installation of one service and the laying of 1,011 feet of 6-inch cast iron main in Larkin Street between Chestnut and Filbert Streets. The contract was awarded to Fred T. Fairey on January 30, 1956 and completed on March 15, 1956 at a cost of $8,684.24.

Contract No. 749 - For the installation of 25 services and the laying of 979 feet of 6-inch and 490 feet of 8-inch cast iron mains in Montcalm, Brewster, Rutledge, Macedonia and Franconia Streets. The contract was awarded to Associated Pipelines,Inc. on February 27, 1956 and completed on May 2, 1956 at a cost of $9,626.19.

Contract No. 751 - For the installation of one service and the laying of 950 feet of 8-inch transite main to Palace of the Legion of Honor. The contract was awarded to Michael Murphy,Jr. on March 26, 1956 and completed on June 14, 1956 at a cost of $7,677.29.

Contract No. 752 - For the installation of 79 services and the laying of 4,600 feet of 6-inch and 8-inch cast iron mains in Lyon, Broderick, Divisadero, Bay Streets and Pacific Avenue. The contract was awarded to the San Francisco Water Department on April 9, 1956 and completed on June 27, 1956 at a cost of $34,755.69.

Contract No. 756 - For the laying of 759 feet of 4-inch and 347 feet of 8-inch cast iron mains in Greenwich, Lombard and Hyde Streets (Sutro Project). The contract was awarded to Fred T. Fairey on March 19, 1956 and completed on May 9, 1956 at a cost of $12,336.50.

Contract No. 758 - For the laying of 1,000 feet of 6-inch cast iron main in Drake Street between Prague Street and Baltimore Way (Sutro Project). The contract was awarded to Fred T. Fairey on April 16, 1956 and completed on June 8, 1956 at a cost of $7,995.24.

Contract No. 760 - For the laying of 500 feet of 8-inch cast iron main in Chicago Way between Naylor Street and South Hill Boulevard (Sutro Prject). The contract was awarded to the San Francisco Water Department on June 4, 1956 at an estimated bid price of $5,299.25. On June 30, 1956 work had not been started.

Contract No. 762 - For installing 15 services and the laying of 700 feet of 6-inch cast iron mains in Campbell Avenue and Somerset Street. The contract was awarded to Michael Murphy,Jr. on June 18, 1956 at an estimated bid price of $4,855.75. On June 30, 1956 work had not been started.

Contract 763 - For installing 28 services and the laying of 1,050 feet of 6-inch cast iron main in Foerster Street between Los Palmos Drive and Teresita Boulevard. The contract was awarded to Michael Murphy, Jr. on June 18, 1956 at an estimated bid price of $6,885.40. On June 30, 1956 work had not been started.

2. Additions to Supply and Transmission Facilities:

Contract No. 672 - For the replacing of that part of the Crystal Springs Pipelines No. 1 and No. 2 on trestles across Guadalupe Marsh near Brisbane with two 60-inch pipelines laid in solid ground around the marsh. The contract was awarded to M. & K. Corporation on April 11, 1955 at an estimated bid price of $398,387.48. On June 30, 1956 the work was 83% complete.

Contract No. 680 - For the construction of 5,949 feet of 60 and 61-inch I.D. steel plate, San Andres Branch of the Sunset Pipeline. The contract was awarded to McGuire and Hester on February 21, 1955 and completed on October 4, 1955 at the cost of $379,668.36.

Contract No. 734 - For the construction of Hillsborough Tunnel, as a part of Crystal Springs and Sunset Pipelines, in Hillsborough, San Mateo County. The contract was awarded to Peter Kiewit Sons' Company on October 24, 1955 at an estimated bid price of $1,366,830.50. On June 30, 1956 work was 20% completed.

3. Miscellaneous Contracts:

Contract No. 673 - For the diking of Bay Division Pipeline right of way at Ravenswood. The contract was awarded to Associated Dredging Company on June 1, 1954 and completed on September 15, 1955 at a cost of $17,607.23.

Contract No. 707 - For the construction and equipping of fluoride treatment plants at San Andres Outlet No. 1 and Crystal Springs Dam. The contract was awarded to C. J. Collins on February 7, 1955 and completed on July 8, 1955 at a cost of $59,613.75.

Contract No. 716 - For the construction of Crocker-Amazon and McLaren Park Pump Stations. The contract was awarded to C. J. Collins Company on December 5, 1955 and completed on March 26, 1956 at a cost of $35,340.82.

Contract No. 717 - Electrical alterations at the Alameda Division Headquarters, near Sunol, Alameda County. The contract was awarded to Mahoney Electric Company on October 17, 1955 and completed on January 26, 1956 at a cost of $5,410.22.

Contract No. 718 - For the construction of a Standpipe in McLaren Park. The contract was awarded to the Chicago Bridge and Iron Company on August 29, 1955 and completed on March 27, 1956 at a cost of $59,868.93.

Contract No. 719 - For the repavement of street and side walk openings made by the Department for installation or repair work duing the fiscal year 1955-56. The contract was awarded to the Pacific Pavements Company on May 31, 1955 and terminated on June 30, 1956 at a cost of $113,631.90. Pavement over trenches opened by other contractors performing work for the Department is not included under the annual paving contract, as they are required to provide their own repaving.

Contract No. 726 - For the reconditioning of the 16-inch steel main from Grafton and Granada to Harold and Bruce Avenues. The contract was awarded to Pipelinings, Inc. on August 1, 1955 and completed on September 15, 1955 at a cost of $9,852.50.

Contract No. 733 - For gathering and delivering the 1955 Walnut crop from the orchard near Sunol. The contract was awarded to John Helzer on September 6, 1955 and completed on December 3, 1955 at a cost of $4,727.05.

Contract No. 738 - Electrical Alterations at Peninsula Division Headquarters, Millbrae. The contract was awarded to Mahoney Electric Company on February 27, 1956 at an estimated bid price of $9,898.00. On June 30, 1956 the work was 99% completed.

Contract No. 740 - For the roofing and fencing of Francisco Street Reservoir. The contract was awarded to Roy Madsen on December 12, 1955 and completed on March 13, 1956 at a cost of $26,863.65.

Contract No. 741 - For the reconditioning of a portion of Bay Division Pipeline No. 1 in San Mateo County. The contract was awarded to Pipelinings, Inc. on November 28, 1955 and completed on March 9, 1956 at a cost of $91,338.91.

Contract No. 742 - For the excavation and embankment for Sunset Reservoir - South Basin. The contract was awarded to Piombo Construction Company on February 14, 1956 at an estimated bid price of $758,070.00. On June 30, 1956 the work was 14% completed.

Contract No. 753 - For the replacement of 1½-inch and 2-inch mains with 457 feet of 4-inch and 1,178 feet of 6-inch cast iron mains in San Benito Way, 4th and 41st Avenues. The contract was awarded to Michael Murphy, Jr. on April 2, 1956 and completed on May 15, 1956 at a cost of $14,450.17.

Contract No. 754 - For the installation of an Automatic Sprinkler System in the basement of 425 Mason Street. The contract was awarded to Allan Automatic Sprinkler Corporation on February 27, 1956 and completed on May 15, 1956 at a cost of $3,043.29.

Contract No. 755 - For the replacement of 1½-inch and 2-inch mains with 1,700 feet of 6-inch cast iron mains in Euclid and Ninth Avenues. The contract was awarded to Michael Murphy, Jr. on April 16, 1956 and completed on June 1, 1956 at a cost of $13,891.53.

Contract No. 759 - For the re-roofing of Potrero Heights Reservoir. The contract was awarded to H. E. Rahlmann on May 7, 1956 and completed on June 13, 1956 at a cost of $4,118.43.

Contract No. 764 - For coating exterior of Water Department Building at 425 Mason Street, San Francisco, California. The contract was awarded to Fulton Painting Company on June 25, 1956 at an estimated bid price of $4,985.00. As of June 30, 1956 work had not started.

4. Informal Contracts:

The following work involving amounts of less than $2,000 each contract, was done under a service order issued after posting a bid invitation and receiving informal bids.

Informal Bid No. I-124 - For furnishing and installing Slimline Lights in rooms 406, 407 and 505 at 425 Mason Street. Order for service or work was issued to Mohrdick Electric Company who completed the work at a cost of $1,023.00.

Informal Bid No. I-125 - For the Razing of San Francisco Water Department Building at Linden and Railroad Avenues, Millbrae, California. All bids received were rejected and disposal of the building was transferred to the Director of Property for the City.

Informal Bid No. I-126 - For the testing of soil samples from Distribution Reservoirs of the Department. An order for service or work was issued to the Soil Testing Services of California, Incorporated on January 3, 1956. They completed their work at a cost of $423.00.

Informal Bid No. I-127 - For furnishing and installing Glass Door in 1st floor lobby and replacing Rixson hinges in front doors at 425 Mason Street building. Order for service or work was issued to Cobbledick-Kibbe Glass Company for $818.00. Work on site had not been started on June 30, 1956.

Informal Bid No. I-128 - For replacing windows and repairing exit door on 8th floor of 425 Mason Street. Order for service or work was issued to Roy Madsen in an amount of $1,149.00. Work on site had not been started on June 30, 1956.

LANDS, LEASES AND PERMITS

LAND TRANSACTIONS:

At the beginning of the year 63,184.8 acres were owned by the Department; sales of 11.44 acres and purchases of 0.14 of an acre during this year leaves 63,173.48 acres on June 30, 1956. Parcels sold and purchased were:

PURCHASES:	Acres	Acres
Lot 24 Block 6024, San Francisco		0.06
Lot 9 Block "D", Crocker Est. Co., Daly City		0.08
SALES:		
Portion of Sutro Reservoir Tract	3.20	
" " " " "	.40	
" " Balboa " " (Por. Lot 1,Blk. 3180)	.29	
" " Parcel 42, San Mateo County	2.31	
" " " 65, Alameda "	2.63	
" " " 35, San Mateo "	2.61	
	11.44	0.14
NET DECREASE IN ACRES:		11.30

Out of the above acreage 35,586 acres are under lease or revenue producing permits. A breakdown of the leases follows:

CATTLE LEASES:

There were 16 leases covering 29,869 acres in effect at the end of the year.

Pasture was fair as the rainfall, while heavy, was not spread out over the season, particularly in March and April when the best growth is generally made.

The tenants continued the conservation program with considerable success in some cases by developing new springs, constructing stock dams and practicing controlled grazing.

SHARE CROP LEASES:

At the end of the year there were 14 share crop leases in effect, covering 3,386 acres. Principle crops raised were oats, barley, wheat, alfalfa hay, barley and wheat grain.

The City's share of the better hay was stored in the barn at Sunol and held for higher prices. From $7.00 to $10.00 more per ton was realized by this practice.

The City receives 1/4 of the crops grown under the share crop leases and where grazing is permitted after removal of crops an additional cash rental is collected.

FLAT RATE AND SPECIALTY LEASES:

There are 19 leases covering 1,657 acres of this type under Agricultural classification and 71 leases covering 400 acres under Non-Agricultural. These latter include the so-called "Revocable Permits" and leases for various purposes, such as billboards, picnic grounds, lumber yards, nurseries, restaurant and other commercial types of business. Three of the 19 are "Specialty Crop Leases". They include 220 acres of roses, 400 acres of beans and 130 acres of strawberries and a Government experimental plot of 30 acres being used to develop new types of range grasses.

The Public Utilities Commission adopted a new policy of increasing fees on certain permits from $25.00 to $50.00 to cover the cost of preparing the necessary paper work, maps, etc.

ROYALTIES AND PERCENTAGE LEASES:

This category includes the Crystal Springs Golf Course of 173 acres from which returns are based on percentage of income. Two rock quarries, Skyline Materials and Lowrie Rock Quarries, are on a royalty basis, the former covering 30 and the latter 19 acres.

The San Antonio Gravel Company gravel pit lease of 50 acres, near Sunol, was revoked for non-operation.

WALNUT ORCHARD:

The Department owns and operates a walnut orchard at the Sunol Headquarters of the Alameda Division, consisting of 90 acres of old and 40 acres of young bearing trees, together with 60 acres of new trees.

The 1955 walnut crop promised to be a bumper one until the extreme heat wave of early September actually "cooked" the nuts on the trees. Temperatures ranged from 102° to 112° for a period of 8 to 10 days. The walnuts ran a high percentage of shriveled meats because of this "cooking", which was a statewide condition.

The unusual heavy rains caused some damage to the orchard. In places where water remained for sometime, oak root fungus and crown rot showed some development as did melaxuma and other diseases. Weather conditions in general were unseasonal and bad which required increased aphid and blight control and caused some die-back. Morning Glory continued as a serious pest in the orchard.

The trees on the 40 acre tract were permanently "shaped" and wooden "supports" and "arms" were installed to protect them from damage by wind or other causes.

The new 60 acre orchard was planted during February and March 1956, principally to Hartley and Payne variety. The orchard was dedicated in May at a ceremony and friendly gathering in which Mayor Christopher along with the Mayor's of nearby

communities participated and attendance included additional representatives from local areas and officials from the Farm Bureau and Walnut Growers'Association.

All walnuts, except the thin shelled Mayettes which were sacked, were gathered, hulled, dried and delivered in bulk to the Walnut Growers' Association at Walnut Creek under contract again this year. The hulling and drying is done at the City's dehydrator plant at Sunol.

Sewage sludge and shell nitrogen were used as fertilizer giving beneficial bacteria and soil conditioner, which was reflected in decided greeness of the leaves and new growth.

GENERAL:

Weed control, sanitary measures and rodent control; cooperation with the various Departments of Agriculture, Health Boards and the University of California in various experiments, control work and program has been beneficially carried on.

It is expected that by next year, weather permitting, all boundary fences will have been replaced. This work is being done by the tenants, the materials being supplied by the City. All cross fences on the properties are furnished and installed by the tenant.

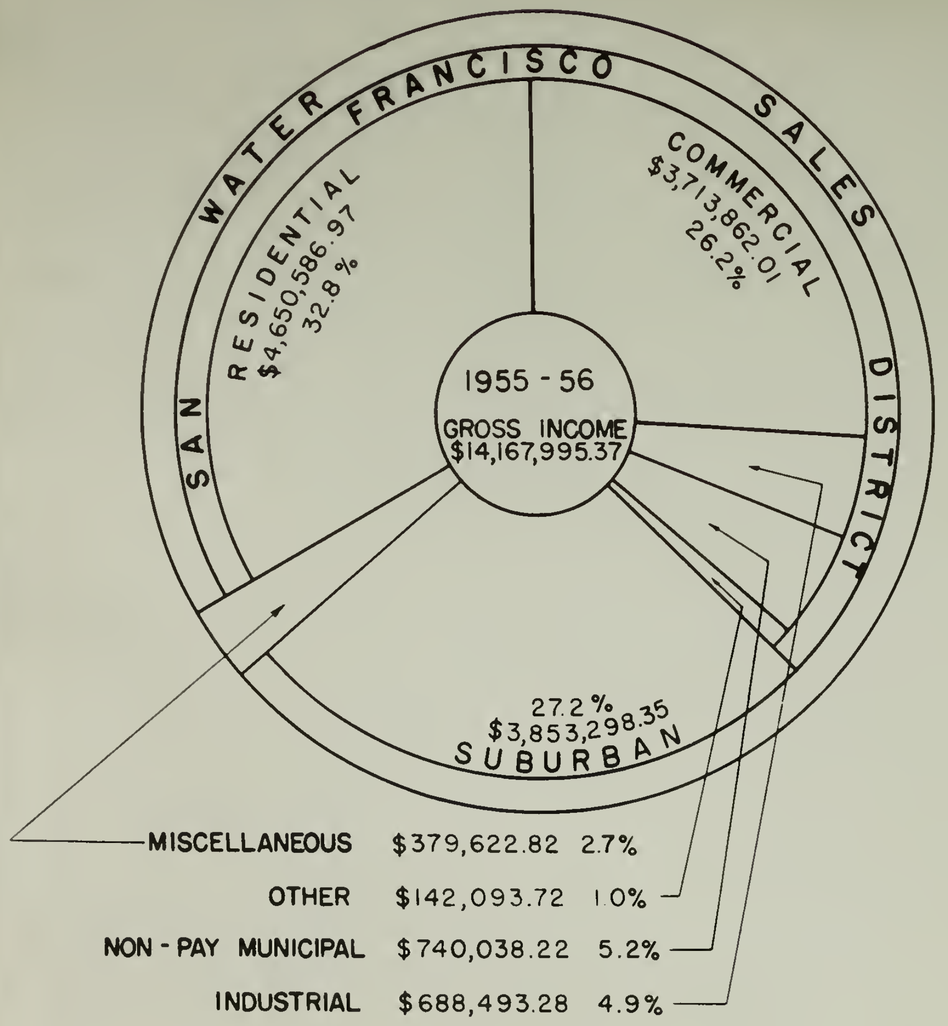
Flood damage to various leaseholds resulted in cancellation of some rents in order to assist the flood victims. This affected a number of Niles Canyon leases in addition to a major strawberry lease and others where the damage was quite severe. A number of hay fields were flooded and parts of the crops were washed out.

WALNUT CROP AND VALUE DURING CITY OWNERSHIP

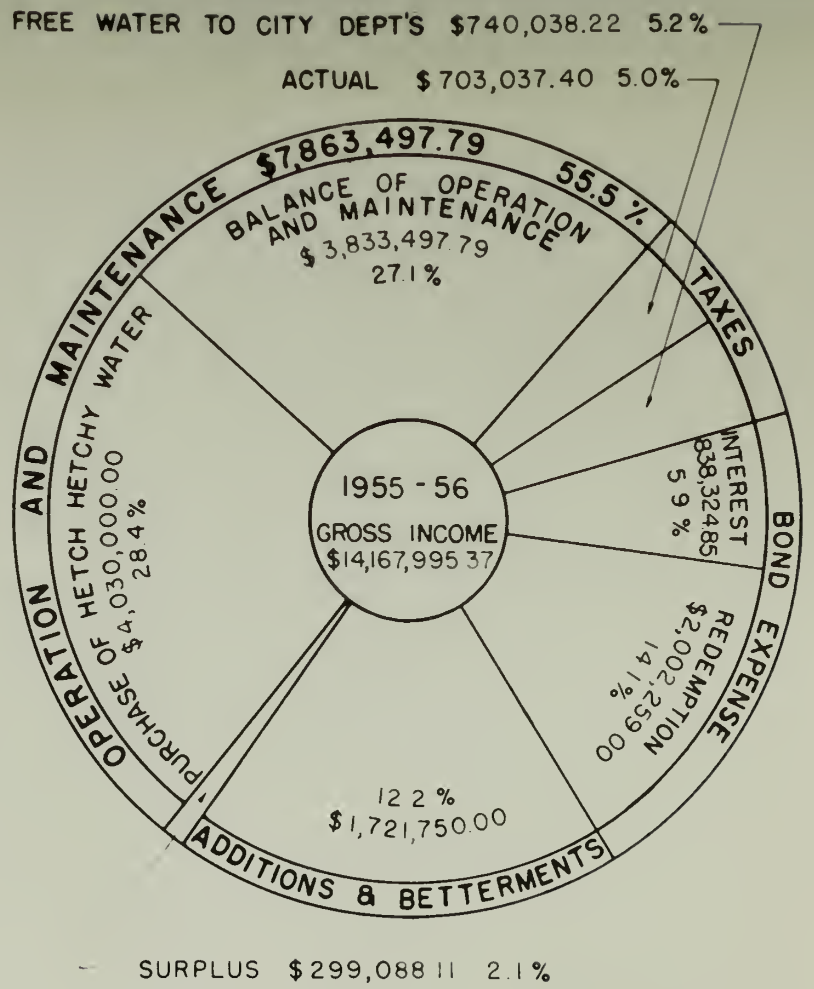
	Total Yield Pounds	Gross Value	Net Cash Received	Association Charges % of Gross *	Packing House Charges per lb.
1930	110,361.	$23,905.44	$20,024.55	16.23	$ .0138
1931	91,570.	13,778.73	12,272.73	10.93	.0091
1932	206,795.	28,994.25	20,391.18	29.67	.0070
1933	153,080.	23,635.21	17,905.45	24.24	.0073
1934	136,672.	18,039.52	13,236.00	26.63	.0059
1935	209,095.	27,359.11	22,719.87	16.96	.0045
1936	187,605.	27,865.13	24,947.57	10.47	.0046
1937	179,954.	23,808.71	21,102.05	11.37	.0042
1938	258,934.	36,812.05	31,801.16	13.61	.0090
1939	153,770.	12,747.35	11,366.74	10.83	.0124
1940	90,148.	13,570.25	11,671.08	14.00	.0100
1941	239,062.	37,182.09	29,807.07	19.83	.0088
1942	254,594.	45,744.85	44,000.73	3.81	.0068
1943	188,590.	49,552.64	48,373.84	2.38	.0082
1944	107,831.	29,487.66	26,901.72	8.77	.0138
1945	214,919.	62,893.03	58,474.64	7.03	.0126
*1946	240,883.	73,017.57	73,017.57	0	0
*1947	81,167.	16,700.11	16,700.11	0	0
*1948	196,529.	39,896.52	39,896.52	0	0
*1949	153,434.	25,546.71	25,546.71	0	0
1950	135,377.	31,879.62	26,983.69	15.36	.0361
1951	184,497.	50,394.52	41,728.69	17.19	.0470
1952	232,716.	67,279.72	50,687.67	24.66	.0713
1953	152,766.	47,826.07	36,410.41	23.87	.0747
1954	197,848.	50,004.74	35,796.44	28.41	.0718
1955	127,758	44,523.64	36,179.41	18.74	.0653
Prior Years Adjust		3,431.54	3,431.54		
	4,485,955	926,076.78	801,575.14		

*Includes cost of surplus control, operating reserve and revolving fund in addition to actual Association charges for marketing expense.

**Sold under competitive bids.



SOURCE OF INCOME
FISCAL YEAR ENDING JUNE 30, 1956



DISPOSITION OF GROSS INCOME
FISCAL YEAR ENDING JUNE 30, 1956

ACCOUNTING AND AUDITING

The accounts of the San Francisco Water Department are maintained strictly in accordance with the requirements of the State Public Utilities Commission and Section 64 of the Charter, and the accounts of the Department have been so coordinated with the Controller's system that no encumbrance or expenditure against budget estimates can be incurred without prior certification from the Controller that funds are available. As provided in Ordiance 9.0621, an annual audit of the Department is made as of June 30, by a firm of certified public accountants. The accountant's report is not available at the time the Department's financial statement goes to press, hence there may be minor differences between the two reports due to reclassifications made by the accountants.

Comments on Financial Statements:

An analysis of the disposition of Earned Surplus, together with additions thereto and deductions therefrom is shown in the body of these comments.

The following financial statements and cost reports are presented:

Balance Sheet June 30, 1956 (Exhibit A).

Income Statement for the years ending June 30, 1955 and June 30, 1956 (Exhibit B).

Surplus Account June 1956 (Exhibits C and D).

Comparative Statement of Operating Expenses for fiscal year 1954-55 and 1955-56 (Exhibit E).

Operating Expenses for past four fiscal years (Schedules Nos. 1,2,3 and 4).

Additions, Betterments and Replacements for fiscal year 1955-56 (Schedule No.5).

Agricultural Division, Receipts and Expenses for past five years (Schedule No.6).

Operating Expenses, City Distribution Division for fiscal year 1955-56 (Schedule Nos. 11 and 12).

Operating Expenses, outside of San Francisco for fiscal year 1955-56 (Schedules Nos. 13 and 14).

Operating Expenses show a net increase of $23,073.35 as shown by the following tabulation:

	Increase	Decrease
Source of Supply	$ 25,218.26	
Standby Charge and Purchase of water		
Pumping Expenses		$ 38,093.29
Purification Expenses	29,145.43	
Transmission and Distribution Expenses		45,550.33
Commercial Div'n Expenses	6,836.05	
Administrative & General		42,038.71
Taxes Actual	66,863.03	
Provision for Doubtful Accts.		531.66
Provision for Depreciation	11,744.33	
Municipal Taxes, Comparison*	473.65	
Revision for Contingent Refunds	9,006.59	
Net Increase		23,073.35
	$149,287.34	$149,287.34

*Water delivered to Municipal Departments offset by taxes.

SAN FRANCISCO WATER DEPARTMENT

DISPOSITION OF SURPLUS

SURPLUS	TO JUNE 30, 1955	YEAR 1955-1956	TO JUNE 30, 1956
CONTRIBUTED TO:			
GENERAL FUND	$15,992,457.24	$	$15,992,457.24
HETCH HETCHY PROJECT	4,510,127.21		4,510,127.21
HETCH HETCHY POWER	1,228.59		1,228.59
APPROPRIATED FOR:			
BOND REDEMPTION - SPRING VALLEY	25,000,000.00	1,000,000.00	26,000,000.00
" " - 1933 WATER DISTRIBUTION	9,844,594.33		9,844,594.33
1947 HETCH HETCHY BOND INTEREST & REDEMPTION	3,110,151.23	1,005,886.51	4,116,037.74
ADDITIONS AND BETTERMENTS	24,389,662.79	1,721,750.00	26,111,412.79
ADDITIONS & BETTERMENTS, LAKE MERCED PROJECT	1,250,000.00		1,250,000.00
PURCHASE OF LAND	54,858.50		54,858.50
OTHER PURCHASES	100,429.29		100,429.29
FROM SURPLUS	-4,656,595.47	-963,918.09	-5,620,513.56
	$ 79,596,913.71	$2,763,718.42	$ 82,360,632.13
ADD:			
INITIAL EXCESS EARNINGS- SPRING VALLEY WATER CO.	$ 4,152,652.24	$	$ 4,152,652.24
VALUATION MUNICIPAL WATER WORKS	100,000.00		100,000.00
GRANTS EARNED ON FEDERAL PROJECTS	2,358,987.60		2,358,987.60
CONTRIBUTIONS IN AID OF CONSTRUCTION	165,000.00		165,000.00
SURPLUS MATERIAL AND EQUIPMENT	373,041.59		373,041.59
LAND SALES - PROFIT	1,322,456.20	63,718.09	1,386,174.29
BOND PREMIUM	340,660.86		340,660.86
PALO ALTO PIPE LINE	360,271.90		360,271.90
MISCELLANEOUS ADDITIONS	398,027.42		398,027.42
BAY BRIDGE PUMP AND SUPPLY LINE	219,601.79		219,601.79
1947 HETCH HETCHY BOND FUND STRUCTURES	12,634,481.95	79,350.87	12,713,832.82
REVALUATION OF WATER DEPARTMENT PROPERTIES	765,951.12		765,951.12
	$ 23,691,132.67	$ 143,068.96	$23,834,201.63
DEDUCT:			
CONTRIBUTION BY HETCH HETCHY FOR SUTRO RESV'R	$ 409,471.41	$	$ 409,471.41
CONTRIBUTION TO GENERAL FUND	15,992,457.24		15,992,457.24
DEFICIT COUNTY LINE WATER WORKS	19,189.15		19,189.15
PAYMENT FOR PURPOSE OF ENABLING CITY TO TAKE OVER PROPERTIES IN ADVANCE	745,274.31		745,274.31
LANDS CONTRIBUTED TO CITY	172,564.67		172,564.67
CONTRIBUTION TO HETCH HETCHY WATER SUPPLY	4,430,005.85		4,430,005.85
MISCELLANEOUS DEDUCTIONS FROM SURPLUS	275,549.70		275,549.70
DEPRECIATION DUE TO REVALUATION	9,059,955.03		9,059,955.03
DEPRECIATION NOT FUNDED (ACCRUED 3-3-30)	14,044,069.09	625,774.88	14,669,843.97
	$ 45,148,536.45	$ 625,774.88	$45,774,311.33
	$ 58,139,509.93	$2,281,012.50	$60,420,522.43

BALANCE SHEET

JUNE 30, 1956

ASSETS

FIXED CAPITAL		
IN SERVICE	$100,389,702.99	
NOT IN SERVICE	749,005.36	
	$101,138,708.35	
LESS PROV'N. FOR DEPR'N.	33,694,691.69	
	$ 67,444,016.66	
CONSTRUCTION WORK IN PROGRESS	1,225,995.49	$68,670,012.15
CASH:		
TREASURER'S BALANCE, SCHEDULE ANNEXED	$ 6,957,216.87	
REVOLVING FUND	30,000.00	
OTHER CASH	-	6,987,216.87
ACCOUNTS RECEIVABLE:		
CONSUMERS' ACCOUNTS	$ 976,595.60	
LESS RESERVE FOR LOSSES	99,818.07	
	$ 876,777.53	
OTHER ACCOUNTS RECEIVABLE:		
REVENUE	$ 39,688.77	
NON-REVENUE	1,128.35	917,594.65
INTERFUND ACCOUNTS:		
SCHEDULE ANNEXED:		
PUBLIC SERVICE ENTERPRISES	$ 3,369.34	
GENERAL CITY AND COUNTY	-	3,369.34
DEFERRED CHARGES:		
OPERATING FUND EXPENDITURES UNBILLED	$ 14,228.27	
PREPAID TAXES	-	
HETCH HETCHY PROJECTS	-	
DEPOSIT FOR ORDERS OF POSSESSION	28,425.50	
MATERIAL AND SUPPLIES	501,668.57	
MISC. JOBBING & SALES A/C, ETC.	15,101.47	
PUBLIC UTILITIES COMMISSION	-	559,423.81
TOTAL ASSETS		$77,137,616.82

GJC
NBC
GPN
GWP
RJR-2
ZHT-4
TR
VHW
BUR.GOV.RES.
DMY.

ZHT:TJD
10-2-56

LIABILITIES

BONDED DEBT:		
SPRING VALLEY WATER BONDS, 1928	$15,000,000.00	
MATURED, NOT PRESENTED FOR PAYMENT: SPRING VALLEY 1928	15,000.00	$15,015,000.00
BOND INTEREST PAYABLE:		
ACCRUED, NOT DUE: SPRING VALLEY WATER BONDS 1928	$ 337,500.00	
MATURED, NOT PRESENTED FOR PAYMENT: SPRING VALLEY, 1928	7,020.00	344,520.00
ACCOUNTS PAYABLE:		
WARRANTS OUTSTANDING, SCHEDULE ANNEXED	$ 274,311.03	
CONSUMER'S DEPOSITS & ADVANCES	224,750.00	
GENERAL CREDITORS	[illegible]	
ACCRUED PAYROLL	-	
PAYROLL DEDUCTIONS PAYABLE	13,075.40	674,[illegible].73
INTERFUND ACCOUNTS:		
SCHEDULE ANNEXED:		
PUBLIC SERVICE ENTERPRISES	$ 80,662.78	
GENERAL CITY AND COUNTY	65,177.50	145,840.28
DEFERRED CREDITS:		
RESERVE FOR CONTINGENCY REFUNDS - FUNDED	$ 184,373.05	
RESERVE FOR CONTINGENCY REFUNDS - UNFUNDED	27,020.79	
RESERVE FOR COMPENSATION INSURANCE	139,981.82	
OTHER DEFERRED CREDITS	185,836.72	537,212.38
SURPLUS, SCHEDULE ANNEXED		60,420,522.43
TOTAL LIABILITIES		$77,137,616.82

Schedule #2

SAN FRANCISCO WATER DEPARTMENT

INCOME ACCOUNT

TWELVE MONTHS ENDING JUNE 30, 1956 AND 1955

	TWELVE MONTHS ENDING JUNE 30		INCREASE OR DECREASE	CUMULATION FROM MARCH 3, 1930 TO JUNE 30, 1956
	1956	1955		
SALE OF WATER:				
SAN FRANCISCO	$9,132,838.31	$ 9,097,897.46	$ 34,940.85	$192,385,526.08
OUTSIDE OF SAN FRANCISCO	3,853,926.93	3,524,984.72	328,942.21	31,816,682.87
MUNICIPAL DEPARTMENTS - ACTUAL	61,569.09	61,023.47	545.62	1,541,688.84
MUNICIPAL DEPARTMENTS - COMPARISON*	740,038.22	739,564.57	473.65	13,466,646.39
	$13,788,372.55 13,[illegible]	$13,423,470.22	$ 364,902.33	$239,210,544.18
OTHER EXPENSES:				
SOURCE OF WATER SUPPLY	475,584.14	450,365.88	25,218.26	7,546,325.31
STANDBY CHARGE & PURCHASE OF WATER	4,030,000.00	4,030,000.00		40,886,061.92
PUMPING	367,162.30	405,255.59	−38,093.29	7,431,223.98
PURIFICATION	174,699.90	145,554.47	29,145.43	2,132,581.38
TRANSMISSION AND DISTRIBUTION	964,969.48	1,010,519.81	−45,550.33	12,583,229.48
COMMERCIAL DIVISION	612,925.38	606,089.33	6,836.05	11,472,376.98
ADMINISTRATION AND GENERAL	730,765.95	772,804.66	−42,038.71	9,903,190.21
TAXES - ACTUAL	703,037.40	636,174.37	66,863.03	9,268,188.68
PROVISION FOR DOUBTFUL ACCOUNTS	8,105.34	8,637.00	− 531.66	267,234.13
PROVISION FOR DEPRECIATION	1,190,548.97	1,178,804.64	11,744.33	27,257,938.51
MUNICIPAL TAXES - COMPARISON*	740,038.22	739,564.57	473.65	13,482,885.11
RESERVE FOR REFUNDS	53,282.54	44,275.95	9,006.59	213,014.53
	$10,051,119.62	$10,028,046.27	$ 23,073.35	$ 142,444,300.22
PROFIT FROM OPERATIONS:	3,737,252.93	3,395,423.95	341,828.98	96,766,243.96
OTHER INCOME:				
RENTALS, INCLUDING CROP SHARES	245,129.87	278,120.12	−32,990.25	3,018,198.03
INTEREST EARNED	18,457.35	17,106.19	1,351.16	532,994.73
SALE OF WALNUTS	44,523.64	50,004.74	− 5,481.10	925,876.78
MISCELLANEOUS	71,511.96	233,677.94	−162,165.98	1,139,142.46
	$379,622.82	$ 578,908.99	−$199,286.17	$ 5,616,212.00
OTHER EXPENSES:				
BOND INTEREST	838,324.85	875,663.98	− 37,339.13	38,223,902.32
AGRICULTURAL DIVISION	21,416.05	14,273.53	7,142.52	428,141.64
WALNUT ORCHARD EXPENSES	38,402.11	49,131.07	− 10,728.96	633,052.95
MISCELLANEOUS	11,184.60	20,319.17	− 9,134.57	125,444.93
	$ 909,327.61	$ 959,387.75	−$ 50,060.14	$ 39,410,541.84
NET INCOME	$3,207,548.14	$3,014,945.19	$192,602.95	$ 62,971,914.12

*WATER SERVICE TO MUNICIPAL DEPARTMENTS OFFSET BY MUNICIPAL TAXES.

SURPLUS ACCOUNT

FOR TWELVE MONTHS ENDING JUNE 30, 1956

SURPLUS, JUNE 30, 1955	$58,139,509.93	
ADD:		
NET INCOME FOR TWELVE MONTHS ENDING JUNE 30, 1956	3,207,548.14	
FIXED CAPITAL IN SERVICE CONTRIBUTED BY 1947 HETCH HETCHY BOND FUND	79,350.87	$61,426,408.94
DEDUCT:		
CONTRIBUTION TO 1947 HETCH HETCHY WATER BOND FUND		1,005,886.51
SURPLUS - JUNE 30, 1956		$60,420,522.43

EXHIBIT "D"

SAN FRANCISCO WATER DEPARTMENT

COMPOSITION OF SURPLUS - CONDENSED

JUNE 30, 1956

INITIAL SURPLUS - MARCH 3, 1930				
AMORTIZATION ON CONTRIBUTION (SPRING VALLEY)		$ 4,152,652.24		
VALUATION OF MUNICIPAL WATER WORKS		100,000.00		
		$ 4,252,652.24		
LESS: ADDITIONAL ALLOWANCE FOR DEPRECIATION MARCH 1, 1920 TO MARCH 3, 1930		2,327,916.67	$ 1,924,735.57	
ADDITIONS:				
NET PROFIT, MARCH 3, 1930 TO JUNE 30, 1956		$62,971,914.12		
MISCELLANEOUS AND YEAR TO YEAR ADJUSTMENTS		5,178,067.22		
CONTRIBUTION FROM HETCH HETCHY POWER DIVISION		409,471.41		
BAY DIVISION PIPE LINE #3 AND SUNSET SUPPLY LINE IN SERVICE (PAID FROM PROCEEDS OF 1947 H.H. WATER BONDS)		12,713,832.82	81,273,285.57	
GRANTS EARNED ON FEDERAL PUBLIC WORKS PROJECT			2,358,987.60	
YEAR TO YEAR - ADDITIONS TO SURPLUS - JUNE 30, 1956			1,669,481.49	87,226,490.23
DEDUCTIONS:				
CONTRIBUTED TO GENERAL FUND			$15,992,457.24	
" " 1947 H.H. WATER BOND FUND		$ 4,080,029.19		
" " H.H. WATER SUPPLY		4,466,014.40	8,546,043.59	
LANDS CONTRIBUTED TO CITY & COUNTY OF SAN FRANCISCO FOR STREETS & BOULEVARDS			172,564.67	
EXCESS OF ADJUSTED BOOK VALUE OF PLANT APPRAISAL DECEMBER 31, 1937	$1,990,474.91			
" " " " " " " " JUNE 30, 1953	188,291.42	$ 2,178,766.33		
LESS: ADJUSTED BOOK VALUE ON PLANT APPRAISAL JUNE 30, 1948		83,864.03	2,094,902.30	26,805,967.80
SURPLUS - JUNE 30, 1956				$60,420,522.43

PUBLIC UTILITIES COMMISSION
SAN FRANCISCO WATER DEPARTMENT

EXHIBIT "E"

COMPARATIVE STATEMENT OF OPERATING EXPENSES
FOR THE FISCAL YEARS ENDING JUNE 30, 1955 AND JUNE 30, 1956

	FISCAL YEAR ENDED JUNE 30	
	1955	1956
SOURCE OF WATER SUPPLY EXPENSES:		
SUPERINTENDENCE	$ 63,496.68	$ 66,736.64
OPERATING LABOR	79,621.36	85,381.32
OPERATING SUPPLIES AND EXPENSES	20,804.58	23,123.07
REPAIRS & MAINTENANCE - BUILDINGS, FIXTURES & GROUNDS	162,497.97	204,112.56
REPAIRS - SURFACE FACILITIES	123,945.29	95,180.92
	$ 450,365.88	$ 474,534.51
PUMPING EXPENSES:		
LABOR - PUMPING	$ 104,246.50	91,463.13
FUEL FOR STEAM	69,310.37	56,876.01
POWER PURCHASED	208,460.14	196,199.09
LUBRICANTS	37.25	921.68
MISCELLANEOUS SUPPLIES AND EXPENSES	1,863.69	2,419.18
REPAIRS - PRIMARY PUMPING EQUIPMENT	9,363.19	5,898.30
REPAIRS - BOILERS AND EQUIPMENT	76.51	7.29
REPAIRS - MISCELLANEOUS EQUIPMENT	2,154.52	4,098.02
REPAIRS - BUILDING FIXTURES AND GROUNDS	9,743.42	9,279.60
	$ 405,255.59	$ 367,162.30
PURIFICATION EXPENSES:		
SUPERINTENDENCE AND LABOR	$ 52,048.20	$ 55,677.01
SUPPLIES AND EXPENSE	92,627.49	113,088.55
REPAIRS - PLANT, STRUCTURES AND EQUIPMENT	878.78	5,934.34
	$ 145,554.47	$ 174,699.90
TRANSMISSION AND DISTRIBUTION EXPENSES:		
SUPERINTENDENCE	$ 85,581.04	$ 84,021.83
PATROLLING STORAGE FACILITIES	26,450.07	25,244.58
METERS AND FITTINGS DEPARTMENT	147,833.57	152,310.27
STREET DEPARTMENT	38,954.49	39,388.72
CONSUMERS' PREMISES EXPENSES	62,647.91	65,342.30
MISCELLANEOUS SUPPLIES AND EXPENSES	25,935.95	35,964.43
REPAIRS - TRANSMISSION MAINS AND CANALS	82,818.91	52,625.39
REPAIRS - RESERVOIRS, TANKS AND STANDPIPES	7,390.63	12,139.66
REPAIRS - DISTRIBUTION MAINS AND CANALS	174,677.86	217,127.32
REPAIRS - SERVICE CONNECTIONS	163,400.45	196,573.87
REPAIRS - DISTRIBUTION BUILDINGS AND GROUNDS	48,867.11	49,113.19
REPAIRS - DISTRIBUTION EQUIPMENT	11,498.93	13,870.18
RECONSTRUCT AND RELOCATE PIPE LINES AND SERVICES	134,462.89	21,247.74
	$1,010,519.81	$ 964,969.48

PUBLIC UTILITIES COMMISSION
SAN FRANCISCO WATER DEPARTMENT

EXHIBIT "E"

- Continued -

	FISCAL YEAR ENDED JUNE 30 1955	1956
COMMERCIAL EXPENSES:		
COLLECTIONS	$ 147,228.12	$ 146,102.57
READING METERS	77,152.91	72,455.24
BOOKKEEPING DEPARTMENT	194,256.88	202,825.50
GENERAL	87,113.65	91,476.23
INSPECTION AND SERVICE	72,188.68	74,214.17
SHIPPING	28,149.09	25,851.67
	$ 606,089.33	$ 612,925.38
ADMINISTRATIVE AND GENERAL EXPENSE:		
SALARIES - GENERAL OFFICERS	$ 35,825.26	$ 36,606.15
SALARIES - GENERAL OFFICE CLERKS	77,210.54	75,603.98
MISCELLANEOUS SUPPLIES AND EXPENSES	2,891.40	3,250.90
INJURIES AND DAMAGES	14,629.24	14,472.80
RETIREMENT SYSTEM CONTRIBUTIONS	234,016.92	251,408.85
MASON STREET BUILDING EXPENSE	46,846.16	45,931.13
TELEPHONE SERVICE	36,652.11	39,329.78
GUEST COTTAGES AND REST ROOM	-	
GENERAL ENGINEERING	102,609.95	93,922.38
HYDROGRAPHY	848.80	888.82
MISCELLANEOUS	21,707.16	3,384.50
COMPENSATION INSURANCE	19,877.68	20,811.61
OTHER INSURANCE	13,546.53	11,247.57
REPAIRS - MASON ST. BUILDING	48,460.37	4,477.88
REPAIRS - TELEPHONE SYSTEM	17,540.73	12,185.62
PROFESSIONAL SERVICES	94.25	4,000.00
PUBLIC UTILITY COMMISSION EXPENSE	96,357.21	95,776.55
PROPERTY TAXES (OUTSIDE OF SAN FRANCISCO)	636,174.37	703,037.40
	$1,405,288.68	$1,417,335.92

SAN FRANCISCO WATER DEPARTMENT

OPERATING EXPENSES
SCHEDULE NO. 1

	1952-1953	1953-1954	1954-1955	1955-1956
RESERVOIRS AND SOURCES:				
INSIDE OF SAN FRANCISCO:				
Lake Merced	$ 6,041.64	$ 14,370.48	$ 5,841.09	$ 7,036.17
OUTSIDE OF SAN FRANCISCO:				
SURFACE SOURCES:				
San Andres Reservoir	20,681.44	24,367.47	24,125.65	33,716.18
Crystal Springs Reservoir	65,212.60	74,190.08	77,194.86	72,929.71
Pilarcitos Reservoir	31,462.30	37,114.28	32,332.60	50,694.70
Calaveras Reservoir	14,740.21	21,997.29	20,140.73	25,100.85
	$132,096.55	$ 157,669.12	$ 153,793.84	$ 182,441.44
GROUND SOURCES:				
Sunol Filter Beds	$ 10,692.87	$ 16,426.83	$ 12,069.86	$ 15,386.93
Pleasanton Wells	3,109.82	1,221.71	1,185.71	1,519.50
	$ 13,802.69	$ 17,648.54	$ 13,255.57	$ 16,906.43
SUPPLY LINES AND AQUEDUCTS:				
Bay Division Pipe Line No. 3	$	$	$	$ 4,221.03
Bay Division Pipe Lines Nos. 1 and 2 (Peninsula Division)	57,161.61	53,057.42	112,738.82	54,991.83
Stone Dam Aqueduct	4,124.84	6,841.02	4,473.95	8,873.23
Niles Irvington Pipe Line	2,845.89	1,671.70	2,061.82	2,314.16
Bay Division Pipe Lines Nos. 1 and 2 (Alameda Division)				7,941.20
Other Supply Lines and Aqueducts (Penin. Div.)	18,250.88	7,625.14	5,624.34	10,917.78
Other Supply Lines (Alameda Division)				15,901.72
Cathodic Protection				2,195.17
	$ 82,383.22	$ 69,195.28	$ 124,898.93	$ 107,356.12
Alameda System - General Expenses	$ 28,785.54	$ 34,980.70	$ 38,596.00	$ 39,298.48
Peninsula System - General Expenses	99,195.13	99,737.32	113,980.45	121,495.87
	$127,980.67	$ 134,718.02	$ 152,576.45	$ 160,794.35
TOTAL SOURCE OF SUPPLY EXPENSE	$362,304.77	$ 393,601.44	$ 450,365.88	$ 474,534.51

SAN FRANCISCO WATER DEPARTMENT

PUBLIC UTILITIES COMMISSION
SAN FRANCISCO WATER DEPARTMENT

SCHEDULE NO. 2
OPERATING EXPENSES

PUMP STATIONS	1952-1953	1953-1954	1954-1955	1955-1956
	$	$	$	$
INSIDE OF SAN FRANCISCO:				
STEAM PLANTS:				
Central	127,293.87	147,366.25	142,085.05	103,370.01
City				
Clarendon Heights	300.50	565.83		
	$127,594.37	$147,932.08	$142,085.05	$103,370.01
ELECTRIC PUMPS:				
Alemany	$ 36,208.83	$ 44,072.46	$ 45,141.93	$ 9,659.34
Bay Bridge Pump - Treasure Island	8,493.67	8,413.82	8,986.10	7,623.37
Bernal Heights	416.62	484.46	446.71	815.17
Crocker Amazon				2,754.40
Fairview	600.42	532.32	798.52	492.34
Forest Hill	9,237.56	9,477.37	10,348.23	9,947.55
Francisco Street	2,869.66	3,050.19	2,788.00	1,428.22
Lake Honda Booster	340.70	259.88	407.55	645.87
Lake Merced		43.26	27,000.20	83,466.26
Lincoln Park	823.25	841.95	658.04	730.24
Lone Mountain				209.20
McLaren				7.14
Mount Davidson		1,051.44	861.22	1,096.36
Newcomb Avenue	5,991.14	4,498.89	4,701.11	4,884.18
Olmstead and University	1,213.57	765.10	808.76	666.64
Palo Alto	417.53	465.53	194.04	524.05
Potrero Heights	636.02	504.64	1,126.43	545.82
Summit			97.03	3,712.96
Sunset Booster	407.20	400.30		
Sunset Source		1.08		
Twin Peaks	1,153.82	927.82	1,170.02	1,216.13
General	715.48	1,014.98	1,436.09	612.31
Hunter's Point	190.95			
	$ 69,716.42	$ 76,805.49	$106,969.98	$131,037.55
TOTAL INSIDE OF SAN FRANCISCO	$197,310.79	$224,737.57	$249,055.03	$234,407.56
OUTSIDE OF SAN FRANCISCO:				
Baden	$ 1,709.05	$ 1,797.78	$ 2,632.42	$ 2,839.95
Crystal Springs Pump	138,624.84	137,774.31	142,046.96	113,829.12
Bay Division Pump	286.64	480.89	594.25	760.45
Pleasanton Pump	1,857.34	1,468.10	1,678.32	546.69
Pleasanton Township Water District	2,153.38	2,491.49	3,300.85	4,793.55
Irvington Pump	19,307.77	10,884.09	5,947.76	9,984.98
TOTAL OUTSIDE OF SAN FRANCISCO	$163,939.02	$154,896.66	$156,200.56	$132,754.74
GRAND TOTAL	$361,249.81	$379,634.23	$405,255.59	$367,162.30

PUBLIC UTILITIES COMMISSION
SAN FRANCISCO WATER DEPARTMENT

SCHEDULE NO. 3
OPERATING EXPENSES

PURIFICATION EXPENSES	1952-1953	1953-1954	1954-1955	1955-1956
INSIDE OF SAN FRANCISCO:				
Alemany Fluoridation	$ 2,699.82	$ 2,412.21	$ 2,003.43	$
College Hill	653.04	664.21	474.97	666.51
Francisco Street	53.75	66.05	54.08	23.90
Lake Honda	33.67	9.85	-	-
Lake Merced	-	233.35	94.55	24.67
Lombard Street	69.64	42.96	42.96	98.22
Sunset	759.15	451.84	222.15	337.44
Sutro	107.36	72.04	.88	182.17
University Mound	2,187.75	2,056.55	1,158.52	1,476.30
TOTAL INSIDE OF SAN FRANCISCO	$ 6,564.18	$ 6,009.06	$ 4,051.54	$ 2,809.21
OUTSIDE OF SAN FRANCISCO:				
Crystal Springs Fluoridation Plant	$	$	$	$ 16,760.39
North San Andres Fluoridation Plant	8,829.86	14,466.76	10,329.64	21,124.54
Rock River Lime Plant	11,306.54	15,282.44	16,005.34	13,242.46
San Andres Reservoir	13,219.28	7,972.84	12,229.71	10,661.89
Crystal Springs Reservoir	11,419.94	8,161.94	8,954.35	12,018.42
Calaveras Reservoir	16,427.41	7,783.58	7,972.74	7,932.27
Sunol Purification System	1,041.63	453.76	1,106.78	880.82
Other Outside Stations	2,663.58	2,959.46	1,514.04	4,425.87
Coast Range Division, H.H.W.S.	18,702.03	25,854.22	28,453.81	27,749.79
Millbrae Laboratory	51,956.10	55,589.50	54,935.54	56,364.23
Alum Treatment	-	-	-	730.01
TOTAL OUTSIDE OF SAN FRANCISCO	$ 135,566.37	$138,524.50	$141,501.95	$ 171,890.69
TOTAL PURIFICATION EXPENSES	$ 142,130.55	$144,533.56	$145,553.49	$ 174,699.90

PUBLIC UTILITIES COMMISSION
SAN FRANCISCO WATER DEPARTMENT

SCHEDULE NO. 4
OPERATING EXPENSES

TRANSMISSION AND DISTRIBUTION	1952-1953	1953-1954	1954-1955	1955-1956
INSIDE OF SAN FRANCISCO:				
City Transmission Lines	$ 7,416.08	$ 10,681.13	$ 18,757.08	$ 1,024.82
Reconstruct and Relocate Pipe Lines	44,754.92	46,382.53	16,835.90	21,247.74
" " " Water Services			117,626.99	
City Distribution Reservoirs	61,288.64	91,376.93	68,566.41	73,216.95
Meter Expenses	98,561.61	163,556.72	128,442.89	133,702.27
Street Department Expenses	29,559.11	34,886.93	38,954.49	39,388.72
Main Repairs	170,413.58	175,403.46	174,642.70	217,122.98
Service Connection Repairs	166,578.39	172,827.04	163,395.18	196,506.82
Repairs to Buildings and Equipment	14,544.10	10,261.85	11,498.93	13,870.18
Operation of Corporation Yard	16,434.39	26,924.56	23,917.76	33,332.44
Consumers' Premises Expenses	55,332.34	59,541.61	62,647.91	65,342.30
Superintendence	77,210.65	96,369.09	85,581.04	84,021.83
TOTAL INSIDE SAN FRANCISCO	$742,093.81	$888,211.85	$ 910,867.28	$ 878,777.05
OUTSIDE OF SAN FRANCISCO:				
Alameda Supply Line - Alameda Division	$ 712.54	$ 868.44	$ 223.05	$ 1,853.85
Alameda Transmission Line	6,041.02	4,152.70	12,816.97	7,698.62
Sunset Transmission Line	4,707.93	3,396.80	2,003.00	10,505.31
Crystal Springs Pump Aqueduct	11,866.86	13,989.72	16,889.84	13,864.83
New Crystal Springs Transmission Line	3,355.60	7,150.72	11,320.12	5,530.03
Old Crystal Springs Transmission Line	12,061.09	9,482.43	14,310.76	6,450.10
San Andres Transmission Line #1 to College Hill	5,796.67	5,249.52	8,752.91	3,154.48
San Andres Transmission Line #2 to Sunset	3,947.78	5,160.57	3,621.10	8,968.33
San Andres Transmission Line #3 to Merced Manor	8,462.31	3,191.51	2,967.37	2,877.04
Palo Alto Pipe Line	357.19	283.30	1,164.20	998.64
Niles Regulating Reservoir	4,896.95	6,080.15	6,114.72	5,562.46
Pleasanton Transmission Line	19.15	6.15	37.38	49.35
Meter Expense, Peninsula Division	19,260.26	17,776.34	18,903.09	18,217.99
Meter Expense, Alameda Division	190.20	133.93	528.02	461.40
TOTAL OUTSIDE OF SAN FRANCISCO	$ 81,675.55	$ 76,922.28	$ 99,652.53	$ 86,192.43
TOTAL TRANSMISSION AND DISTRIBUTION EXPENSES	$823,769.36	$965,134.13	$1,010,519.81	$964,969.48

SCHEDULE NO. 5

SAN FRANCISCO WATER DEPARTMENT

ADDITIONS, BETTERMENTS AND REPLACEMENTS

JUNE 30, 1956

ACCT. NO.	CONTRACT NO.	NAME	RETIREMENTS	ADDITIONS	OFFICE	FIELD	FORCE ACCOUNT	CONTRACTS	MATERIAL AND SUPPLIES	CONTRACTUAL SERVICES	EQUIPMENT	MISCEL.
1015		LANDED CAPITAL	$ 26,684.30	$ 121,663.53	$	$	$	$	$	$ 17,311.44	$	$104,352.09
1020		BUILDINGS, STRUCTURES & GROUNDS										
	716	CONSTRUCT CROCKER AMAZON AND McLAREN PARK PUMP STATIONS		33,919.27	7,922.42	970.85	1,322.79	21,576.54	1,916.88	209.79		
	660	CONSTRUCT SUMMIT PUMP STATION		24,242.79	1,535.76	996.98	534.50	18,079.26	1,659.19	1,387.10		
	684	S. F. COLLEGE OF WOMEN PUMP STATION		12,022.39	363.11	1,232.23	1,154.90	7,771.85	1,500.30			
	717	ELECTRICAL ALTERATIONS AT SUNOL		5,410.22	1,056.20	1,021.02		3,333.00				
	738	ELECTRICAL ALTERATIONS AT MILLBRAE		11,004.27	3,319.81	557.91		7,126.55				
	754	FIRE SPRINKLER IN BASEMENT, 425 MASON STREET		3,043.29	64.67			2,485.00	493.62			
		OTHER		56.91					56.91			
				$89,699.14	$ 14,261.97	$4,778.99	$3,062.19	$ 60,372.20	$5,626.90	$ 1,596.89		
1025		SOURCE OF SUPPLY										
	673	LEVEE WEST AND BAY DIV. P.L. BRIDGE		17,607.23	1,364.46	849.47		15,393.30				
	705	CALAVERAS 44" PIPE LINE		1,399.71		1,184.23						
	741	RECONDITION BAY DIV'N PIPE LINE		91,338.91	3,446.88	4,068.53		83,823.50			215.48	
				$110,345.85	$ 4,811.34	$6,102.23		$99,216.80			$ 215.48	
1030		PUMPING STATION EQUIPMENT										
	660	SUMMIT PUMP STATION		13,024.14			943.52				12,080.62	
	716	CROCKER AMAZON - McLAREN PARK		2,878.49							2,373.49	
		OTHER		1,610.50			1,610.50					
				$17,513.13			$2,554.02				$14,959.11	
1035		PURIFICATION										
	707	FLUORIDE TREATMENT PLANTS		60,026.69	5,005.26	4,803.22		31,945.83			18,272.38	
		AUTOMATIC CHLORINATOR		2,571.72							2,571.72	
				$62,598.41	$5,005.26	$4,803.22		$31,945.83			$ 20,844.10	
1040		TRANSMISSION AND DISTRIBUTION										METERS
		CAST IRON MAINS UNDER $2,000		70,206.49			48,987.52		21,218.97			
		CAST IRON MAINS OVER $2,000	$ 37,770.89	403,107.15			89,041.61	156,536.99	157,528.55			
		INSTALL SERVICES IN S. F.	17,100.80	212,095.42			151,589.75	24,137.00	36,368.67			
		FURNISH & INSTALL METERS IN S.F.	128,955.61	201,469.27			19,257.92		8,974.49			$173,236.86
		CUT IN GATE VALVES		21,991.30			17,265.00		4,726.30			
	680	SUNSET SUPPLY LINE-SAN ANDRES BRANCH		380,348.17	23,730.52	33,808.53	643.29	308,765.02			13,400.81	
	645	SUMMIT RESV'R, CLEARING SITE & EXCAVATION		61,101.76	39,756.08	1,009.28		20,336.40				
	646	" " , RELOCATING TANK		3,585.64		236.89	46.55	3,302.20				
	664	" " , CONCRETE LINING & ROOF		572,659.80	9,234.88	27,749.43	2,707.21	525,424.77	2,043.34	5,019.75	480.42	
	718	CONSTRUCT STANDPIPE - McLAREN PARK		59,868.93	2,253.22	3,697.89		53,135.09	379.57		403.16	
	740	FRANCISCO ST.RESV'R-ROOF & FENCE	3,009.60	26,863.65	2,489.33	1,125.32		23,249.00				
		OTHER		6,378.17			5,795.19				582.98	
			$186,836.90	$2,019,675.75	$ 77,464.03	$67,627.34	$335,334.04	$1,114,886.47	$231,239.89	$ 5,019.75	$14,867.37	$173,236.86
1041		TRANSMISSION & DISTRIBUTION										
		INSTALL SERVICES OUTSIDE S. F.		$ 15,440.40			10,099.06		5,341.34			
		FURN. & INST. METERS OUTSIDE S.F.	8,913.94	24,128.36			33.65		2,225.52			21,869.19
			$ 8,913.94	$ 39,568.76			$ 10,132.71		$ 7,566.86			$ 21,869.19
1045		GENERAL EQUIPMENT	2,313.30	25,083.11							$25,083.11	
1046		AUTOMOTIVE EQUIPMENT	16,506.22	23,884.66							23,884.66	
1048		NON OPERATING CAPITAL		1,613.49						1,400.00	213.49	
			$241,254.66	$2,511,645.83	$101,542.60	$83,311.78	$351,082.96	$1,306,421.30	$244,433.65	$25,328.08	$ 100,067.32	$299,458.14

SAN FRANCISCO WATER DEPARTMENT
PUBLIC UTILITIES COMMISSION

SCHEDULE NO. 6

AGRICULTURAL DIVISION
RECEIPTS AND EXPENSES

	1951-1952	1952-1953	1953-1954	1954-1955	1955-1956
RECEIPTS, AGRICULTURAL:					
RENTALS - CATTLE LEASES	$100,610.92	$108,989.53	$94,361.98	$100,969.12	$ 96,547.03
RENTALS - FLAT RATES	27,508.24	11,835.78	6,392.70	15,280.37	7,602.10
RENTALS - SHARE CROPS	16,610.19	23,106.39	20,722.00	10,649.36	25,892.72
" - SPECIALTY		22,919.00	30,642.00	32,392.00	23,042.00
RECEIPTS, NON-AGRICULTURAL:					
RENTALS - FLAT RATES	13,216.47	17,670.81	12,113.46	16,755.08	20,318.98
TAXES PAID BY TENANTS	1,745.57	3,187.08	2,693.96	4,375.65	5,471.89
ROYALTIES	30,537.51	60,549.48	93,139.55	76,041.42	41,957.72
SALES OF WALNUTS	50,394.52	67,279.72	47,826.07	50,004.74	44,523.64
MISCELLANEOUS	14,350.10	15,777.67	12,746.64	13,604.62	16,869.93
TOTAL GROSS INCOME	$254,973.52	$ 331,315.46	$ 320,638.36	$ 320,072.36	$282,226.01
EXPENSES:					
ADMINISTRATIVE AND SUPERINTENDENCE	$ 14,617.17	$ 12,698.91	$ 9,926.23	$ 13,678.51	$ 15,813.18
MISCEL. OFFICE SUPPLIES AND EXPENSES	738.28	628.50	1,047.60	3,089.51	3,986.26
AUTOMOTIVE SERVICE	1,773.98	1,933.12	1,645.87	1,629.55	1,575.01
SHARE CROPS:					
STORAGE INSURANCE, HANDLING FREIGHT	316.03	135.29	351.00	203.98	241.62
CARE OF PROPERTIES:					
REPAIRS - BUILDINGS, STRUCTURES & GROUNDS	5,627.23	1,676.47	6,329.26	5,730.20	10,400.34
WALNUT ORCHARD:					
ADMINISTRATIVE & SUPERINTENDENCE			3,857.73-A	6,341.14	5,184.91
CARE OF ORCHARD	16,378.64	17,113.10	4,200.26-A	16,177.57	15,417.79
CROP HARVEST	11,563.24	15,178.32	9,386.74	10,484.25	6,793.53
PACKING HOUSE AND SELLING EXPENSE	8,665.83	16,592.05	11,415.66	14,215.80	8,398.33
DEPRECIATION			681.50	1,912.31	2,607.55
NET OPERATING EXPENSE	$ 59,680.40	$ 65,955.76	$ 48,841.85	$ 73,462.82	$ 70,418.52
NET INCOME	$195,293.12	$ 265,359.70	$ 271,796.51	$ 246,609.54	$211,807.49

A - DECREASE OVER PRIOR YEAR DUE TO CHARGING COST ON CROP YEAR INSTEAD OF FISCAL YEAR BASIS.

IN 1955-56 AGRICULTURAL DEPARTMENT ALSO NEGOTIATED AIRPORT LEASE AT YEARLY RENTAL OF $3,971.30

SCHEDULE 11

OPERATING EXPENSES - 1955-1956

CITY DISTRIBUTION DIVISION - PUMPING STATION ACCOUNT

	LABOR	USE OF EQUIPMENT	MATERIAL & SUPPLIES	FUEL OR POWER	CONTRACTUAL SERVICE	TOTAL
STEAM PUMPS:						
CENTRAL	$ 44,495.30	$ 102.10	$ 1,489.66	$ 56,876.01	$ 406.94	$ 103,370.01
ELECTRIC PUMPS:						
ALEMANY	5,473.62	13.00	27.83	4,139.84	5.05	9,659.34
BAY BRIDGE - TREASURE ISLAND	805.27	34.50	28.24	6,705.63	49.73	7,623.37
BERNAL HEIGHTS	595.54	1.60	12.71	145.32	60.00	815.17
CROCKER AMAZON	31.47	4.40	13.99		2,704.54	2,754.40
FAIRVIEW	222.84	15.50	6.28	247.72		492.34
FOREST HILLS	763.87	31.00	4.51	9,111.17	37.00	9,947.55
FRANCISCO STREET	141.82	17.60	1.52	1,267.28		1,428.22
LAKE HONDA	602.07	43.80				645.87
LAKE MERCED	16,879.92	41.40	588.74	65,735.68	220.52	83,466.26
LINCOLN PARK	266.53	30.40	2.61	409.95	20.75	730.24
LONE MOUNTAIN	25.67		13.53	170.00		209.20
McLAREN			.78	6.36		7.14
MT. DAVIDSON	659.91	19.20		417.25		1,096.36
NEWCOMB AVENUE	806.77	27.40	24.59	4,025.42		4,884.18
OLMSTEAD & UNIVERSITY	135.95	17.60		513.09		666.64
PALO ALTO	489.69	10.80		23.56		524.05
POTRERO HTS.	315.12	7.20	27.02	196.48		545.82
SUMMIT	1,926.17	147.10	110.76	1,499.77	29.16	3,712.96
TWIN PEAKS	431.41	27.10	7.32	750.30		1,216.13
GENERAL	158.38		174.44		279.49	612.31
	$75,227.32	$ 591.70	$2,534.53	$152,240.83	$3,813.18	$234,407.56

SCHEDULE NO. 12

OPERATING EXPENSES 1955 - 1956

CITY DISTRIBUTION DIVISION

	LABOR	EQUIPMENT	SUPPLIES	SERVICE	PAVING	TOTAL
SOURCE OF SUPPLY:						
LAKE MERCED	$ 6,592.12	$ 93.00	$ 173.58	$ 177.47	$	$ 7,036.17
PURIFICATION:						
COLLEGE HILL	$ 84.54	$ 5.20	$ 451.47	$ 125.30	$	$ 666.51
FRANCISCO STREET			18.75	5.15		23.90
LAKE MERCED	22.33	2.00	.34			24.67
LOMBARD			60.14	38.08		98.22
SUNSET RESERVOIR	40.87	1.00	295.57			337.44
SUTRO RESERVOIR			3.98	178.19		182.17
UNIVERSITY MOUND	217.87	36.50	1,145.18	76.75		1,476.30
	$ 365.61	$ 44.70	$ 1,975.43	$ 423.47	$	$2,809.21
TRANSMISSION AND DISTRIBUTION:						
CITY TRANSMISSION LINES	$ 874.17	$ 32.10	$ 118.55	$	$	$1,024.82
CITY RESERVOIRS	65,206.28	1,349.05	3,304.51	2,185.89	1,171.22	73,216.95
METER EXPENSE	79,686.51	2,716.38	32,901.88	1,126.48	17,271.02	133,702.27
STREET DEPARTMENT EXPENSE	37,792.94	843.98	70.78	681.02		39,388.72
OPERATION OF CORPORATION YARD	23,864.29	536.00	6,719.24	2,212.91		33,332.44
SUPERINTENDENCE	80,393.58	1,368.58	518.61	1,741.06		84,021.83
CONSUMERS' PREMISES EXPENSE	59,954.24	4,559.85	193.95	634.26		65,342.30
REPAIRS - DISTRIBUTION MAINS	171,985.57	7,311.23	16,095.05	1,891.08	19,840.05	217,122.98
REPAIRS - SERVICE CONNECTIONS	144,155.50	10,885.58	18,647.49	6,426.55	16,391.70	196,506.82
REPAIRS - BUILDING AND EQUIPMENT	11,367.39	14.05	2,081.11	407.63		13,870.18
RECONSTRUCT AND RELOCATE PIPE LINES	15,153.79	679.40	1,655.15	3,318.25	441.15	21,247.74
	$690,434.26	$ 30,296.20	$82,306.32	$20,625.13	$55,115.14	$878,777.05
TOTAL CITY DISTRIBUTION DIVISION	$697,391.99	$ 30,433.90	$84,455.33	$21,226.07	$55,115.14	$888,622.43

SCHEDULE NO. 13

OPERATING EXPENSES - 1955-1956

OUTSIDE SAN FRANCISCO

SOURCE OF SUPPLY	LABOR	USE OF EQUIPMENT	MATERIALS & SUPPLIES	CONTRACTUAL SERVICES	MISCELLANEOUS	TOTAL
SURFACE SOURCES:						
SAN ANDRES RESERVOIR	$29,686.38	$ 587.25	$ 2,498.76	$ 943.79	$	$33,716.18
CRYSTAL SPRINGS RESERVOIR	55,037.67	8,551.33	6,280.92	3,059.79		72,929.71
PILARCITOS RESERVOIR	39,247.30	3,553.56	4,546.69	3,347.15		50,694.70
CALAVERAS RESERVOIR	20,001.56	547.10	3,594.41	957.78		25,100.85
TOTAL	$ 143,972.91	$13,239.24	$16,920.78	$ 8,308.51	$	$182,441.44
GROUND SOURCES:						
SUNOL FILTER BEDS	$ 13,108.04	$ 108.80	$ 510.71	$ 1,659.38	$	$ 15,386.93
PLEASANTON WELLS	661.55	46.90	65.05	746.00		1,519.50
TOTAL	$ 13,769.59	$ 155.70	$ 575.76	$ 2,405.38	$	$ 16,906.43
SUPPLY LINES:						
BAY DIVISION PIPE LINE NO. 3	$ 3,408.23	$ 664.50	$ 80.81	$ 67.49	$	$ 4,221.03
" " " " NOS. 1 & 2 (PENINSULA DIVISION)	44,249.44	5,779.46	3,767.24	1,195.69		54,991.83
STONE DAM AQUEDUCT	7,878.52	619.40	282.91	92.40		8,873.23
NILES-IRVINGTON PIPE LINE	1,415.12	461.45	37.59	400.00		2,314.16
BAY DIVISION PIPE LINE NOS. 1 & 2 (ALAMEDA DIVISION)	5,547.07	2,056.83	146.52	190.78		7,941.20
OTHER SUPPLY LINES & AQUEDUCTS (PENINSULA DIVISION)	8,734.70	408.20	1,652.28	122.60		10,917.78
OTHER SUPPLY LINES (ALAMEDA DIV'N)	14,253.63	905.65	703.08	39.36		15,901.72
CATHODIC PROTECTION	231.86	8.10	10.33	1,944.88		2,195.17
TOTAL	$ 85,718.57	$10,903.59	$ 6,680.76	$ 4,053.20		$ 107,356.12
GENERAL EXPENSE:						
PENINSULA SYSTEM	$110,477.45	$ 3,515.53	$ 3,841.17	$ 3,661.72		$ 121,495.87
ALAMEDA SYSTEM	34,192.32	3,245.40	911.40	949.36		39,298.48
TOTAL	$144,669.77	$ 6,760.93	$ 4,752.57	$ 4,611.08		$ 160,794.35
TOTAL SOURCE OF SUPPLY	$383,130.84	$31,059.46	$28,929.87	$19,378.17		$ 467,498.34

SCHEDULE NO. 14
OPERATING EXPENSES
OUTSIDE OF SAN FRANCISCO

PUMPING STATIONS	LABOR	USE OF EQUIPMENT	MATERIAL & SUPPLIES	FUEL OR POWER	CONTRACTUAL SERVICE	TOTAL
BADEN PUMP	$ 2,482.44	$ 160.65	$ 91.24	$ 27.96	$ 77.66	$ 2,839.95
BAY DIVISION PUMP	49.53	14.50		638.02	58.40	760.45
CRYSTAL SPRINGS PUMP	27,440.02	168.20	540.01	85,272.97	407.92	113,829.12
PLEASANTON PUMP	59.50	6.15	117.39		363.65	546.69
PLEASANTON TOWNSHIP WATER DISTRICT	671.99	50.85	51.49	3,065.22	954.00	4,793.55
IRVINGTON PUMP	1,034.84	51.60	129.77	8,768.77		9,984.98
OUTSIDE PUMPING EXPENSES	$31,738.32	$ 451.95	$ 929.90	$ 97,772.94	$ 1,861.63	$132,754.74
PURIFICATION						
SAN ANDRES RESERVOIR	$ 1,783.91	$ 163.20	$ 6,941.66	$	$ 1,773.12	$ 10,661.89
CRYSTAL SPRINGS RESERVOIR	2,565.65	252.40	8,954.98		245.39	12,018.42
CALAVERAS RESERVOIR	693.29	403.45	6,409.78		425.75	7,932.27
SUNOL PURIFICATION STATION	102.98	4.55	772.09		1.20	880.82
OTHER OUTSIDE STATIONS	2,348.00	1,216.23	483.20		379.44	4,425.87
COAST RANGE DIVISION - H.H.P.	874.58	1,232.65	23,631.05		2,011.51	27,749.79
ALUM TREATMENT	158.10		571.91			730.01
LIME TREATMENT PLANT			11,931.51		1,310.95	13,242.46
FLUORIDATION STATIONS	2,383.13	348.85	34,683.76		469.19	37,884.93
MILLBRAE LABORATORY	47,349.39	4,514.05	2,407.88		2,092.91	56,364.23
OUTSIDE PURIFICATION EXPENSES	$58,259.03	$ 8,135.38	$ 96,787.82		$ 8,708.46	$171,890.69
TRANSMISSION & DISTRIBUTION						
PENINSULA DIVISION:						
ALAMEDA TRANSMISSION LINE	$ 5,736.82	$ 372.20	$ 1,168.49		$ 421.11	$ 7,698.62
CRYSTAL SPRINGS AQUEDUCT	12,600.67	402.75	694.89		166.52	13,864.83
CRYSTAL SPRINGS AQUEDUCT (OLD)	5,420.58	555.97	363.83		109.72	6,450.10
CRYSTAL SPRINGS AQUEDUCT (NEW)	4,752.98	366.40	320.52		90.13	5,530.03
SAN ANDRES TRANSM. LINE #1 TO COLLEGE HILL	2,889.62	120.15	93.84		50.87	3,154.48
SAN ANDRES TRANSM. LINE #2 TO SUNSET	7,876.93	386.30	407.55		297.55	8,968.33
SAN ANDRES TRANSM. LINE #3 TO MERCED MANOR	2,648.35	61.95	109.64		57.10	2,877.04
SUNSET TRANSMISSION LINE	7,032.65	460.35	662.00		2,350.31	10,505.31
PALO ALTO PIPE LINE	413.91	90.65	489.28		4.80	998.64
METER EXPENSE	46,011.53	2,260.95	7,338.76		17,494.77	73,106.01
TOTAL PENINSULA DIVISION EXPENSE	$ 95,384.04	$ 5,077.67	$11,648.80		$ 21,042.88	$133,153.39
ALAMEDA DIVISION:						
NILES REGULATING RESERVOIR	$ 5,255.25	$ 79.40	$ 28.33		$ 199.48	$ 5,562.46
ALAMEDA SUPPLY LINE	1,275.24	234.80	333.51		10.30	1,853.85
PLEASANTON TRANSMISSION LINE	48.45	.90				49.35
METER EXPENSE	13,800.03	2,081.90	2,735.22		62.24	18,679.39
TOTAL ALAMEDA DIVISION EXPENSE	$ 20,378.97	$ 2,397.00	$ 3,097.06		$ 272.02	$ 26,145.05
TOTAL TRANSMISSION & DISTRIBUTION EXPENSE OUTSIDE S. F.	$115,763.01	$ 7,474.67	$14,745.86		$ 21,314.90	$159,298.44

CHARGES OF NON-PAYING MUNICIPIAL ACCOUNTS FOR THE FISCAL YEARS 1954-1955 AND 1955-1956

	1954-1955	1955-1956	INCREASE	DECREASE
Hydrants	$ 258,181.70	$259,644.30	$ 1462.60	
Fire Boats	127.67	102.77		$ 24.90
Fire Department	24,546.04	23,731.11		814.93
Police Department	4,867.53	4,729.79		137.74
Parks & Playgrounds	174,352.33	179,414.74	5062.41	
Golden Gate Park - Proper	52,000.74	48,915.55		3,085.19
Libraries	2,562.01	2,850.15	288.14	
Opera House & War Memorial Bldg	3,002.24	2,817.64		184.60
Memorial Museum-StaM-GGPark-Fulton&10th Ave.	411.82	494.20	82.38	
Curator-Pal.LegHon.Lincoln Pk Clement & 39 Ave	384.36	242.48		141.88
Aquarium	2,888.94	2,901.00	12.06	
Youth Guidance Center	3,742.56	3,823.92	81.36	
Adult Guidance Center	617.54	309.28		308.26
Purchaser of Supplies	1,577.61	1,515.62		61.99
Exposition Auditorium	2,364.30	3,084.84	720.54	
Retirement Board	190.51	207.95	17.44	
City Planning Commission	156.11	153.29		2.82
Dept of Public Works (Public Bldgs)	88,463.82	88,853.25	389.43	
" " " " (Street Cleaning)	11,783.68	10,995.42		788.26
" " " " (Street Work & Sewers)	291.73	251.52		40.21
" " " " (Parked Areas & Pub Sts)	6,296.38	6,302.97	6.59	
" " " " (Sidewalk Repairs)	28.56	54.14	25.58	
✓ County Jail	30,900.92	30,772.91		128.01
Dept of Electricity-General Alarm Station	197.95	228.69	30.74	
Dept of Public Health	23,846.27	23,316.66		529.61
" " " "	1,602.44	1,530.09		72.35
Relief Home	18,318.64	17,344.06		974.58
✓ Hassler Health Farm	7,827.28	6,788.65		1,038.63
Public Welfare Dept.	347.37	347.60	.23	
Registrar of Voters	64.77	78.66	13.89	
Municipal Railway	9,564.17	8,988.41		575.76
" " (Track Repairs)	9.62	10.31	.69	
✓ Municipal Airport	7,972.30	9,136.14	1163.84	
Disaster Council	74.66	100.11	25.45	
	$ 739,564.57	$ 740,038.22	$ 9,383.37	$ 8,909.72
	Net Increase . . .	. . . .	. . . . . .	$ 473.65

CHARGES OF PAYING MUNICIPAL ACCOUNTS
FOR THE FISCAL YEARS 1954-1955 and 1955-1956

	1954-1955	1955-1956	INCREASE
SCHOOLS	$ 59,927.88	$ 60,487.79	$ 559.91
CHILD CARE CENTERS	1,095.59	1,081.30	-14.29
TOTALS	$ 61,023.47	$ 61,569.09	$ 545.62

BOND REDEMPTION and INTEREST

WATER DEPARTMENT

	Redemption			Interest			Total Redemption plus Interest
	Spring Valley 1928	H.H. Water Service 1947	Total	Spring Valley 1928	H.H. Water Service 1947	Total	
1956-57	$ 1,000,000	$ 925,505	$ 1,925,505	$ 630,000	$158,143.28	$ 788,143.28	$ 2,713,648.28
1957-58	1,000,000	924,505	1,924,505	585,000	144,365.55	729,365.55	2,653,870.55
1958-59	1,000,000	924,505	1,924,505	540,000	130,076.29	670,076.29	2,594,581.29
1959-60	1,000,000	924,505	1,924,505	495,000	114,591.59	609,591.59	2,534,096.59
1960-61	1,000,000	924,505	1,924,505	450,000	99,286.02	549,286.02	2,473,791.02
1961-62	1,000,000	924,505	1,924,505	405,000	84,244,68	489,244.68	2,413,749.68
1962-63	1,000,000	924,505	1,924,505	360,000	68,688.91	428,688.91	2,353,193.91
1963-64	1,000,000	924,505	1,924,505	315,000	52,618.70	367,618.70	2,292,123.70
1964-65	1,000,000	920,328	1,920,328	270,000	36,585.48	306,585.48	2,226,913.48
1965-66	1,000,000	225,328	1,225,328	225,000	23,676.00	248,676.00	1,474,004.00
1966-67	1,000,000	132,682	1,132,682	180,000	15,174.62	195,174.62	1,327,856.62
1967-68	1,000,000	132,682	1,132,682	135,000	7,994.39	142,994.39	1,275,676.39
1968-69	1,000,000	91,882	1,091,882	90,000	814.25	90,814.25	1,182,696.25
1969-70	1,000,000		1,000,000	45,000		45,000.00	1,045,000.00
Due on 6/30/56	$14,000,000	$8,899,942	$22,899,942	$4,725,000	$936,259.76	$5,661,259.76	$28,561,201.76

Original amounts and interest:

$41,000,000	$12,500,000	$53,500,000	4½%	1¼% to 6%	

APPENDIX TO

REPORT OF SAN FRANCISCO WATER DEPARTMENT

Table	Description
1	San Francisco Rainfall
2	Rainfall - Watershed Stations
3	No Table No. 3
4	Reservoir Storage
5	Water Drawn from Hetch Hetchy and Auxiliary Sources
6	Source of Water Conveyed to the West Side of San Francisco Bay
7	Water Delivered Through Pipe Lines
8	Water Delivered at the Consumer's Meters
9	Average Daily Consumption Since 1865
10	Average Daily Consumption by Districts
11	Peak Day Consumption by Districts
12	Meters in Service, San Francisco
13	Meters in Service, Suburban District
14	Official Meter Tests
15	Unit Cost for Meter Maintenance
16	Unit Cost of Meter Installation
17	Unit Cost of Service Connections
18	Street Main Taps and Service Connection Record
19	Comparative Pumping Costs
20	Record of Bad Water Complaints
21	Record of No Water Complaints
22	Complaints - Poor Supply
23	Transmission Mains
24	Pipe Records, City Distribution System
25	Valve Records, City Distribution System
26	Contract Data

TABLE NO. 1

SAN FRANCISCO RAINFALL
at
Federal Office Building
(U.S. Weather Bureau Records)

*****

Month	Season 1952-53 inches	Season 1953-54 inches	Season 1954-55 inches	Season 1955-56 inches	Normal 1955-56 inches
July	0	T	0.03	.02	.01
August	.01	.07	.20	T	.01
September	0	T	T	.02	.13
October	.07	.34	0.24	.03	1.07
November	2.42	1.88	2.55	2.38	2.27
December	9.06	0.82	5.67	11.47	4.07
January	3.26	3.11	4.05	8.72	4.03
February	0.04	2.42	1.18	2.03	3.91
March	1.83	4.56	0.29	0.12	2.78
April	3.42	0.82	1.49	1.68	1.49
May	0.38	0.11	.04	.68	0.59
June	0.61	0.14	T	.02	0.15
Totals	21.10	14.27	15.75	27.17	20.63

1955-56 Season 131.7% of normal

TABLE NO. 2

RAINFALL - WATERSHED STATIONS
(Water Department Records)

Station	Season 1952-53 inches	Season 1953-54 inches	Season 1954-55 inches	Season 1955-56 inches	Normal 1955-56 inches
San Francisco	21.10	14.27	15.75	27.17	20.63
Pilarcitos	42.33	34.48	28.40	58.30	45.34
San Andres	30.47	24.41	22.06	43.03	37.15
Crystal Springs Upper	24.51	20.28	19.64	34.09	31.93
Crystal Springs Lower	25.20	18.67	17.66	36.37	27.62
Crystal Springs Cottage	25.60	20.82	20.07	31.74	27.05
Lake Merced	22.45	17.86	16.20	30.25	22.29
Pleasanton Pumps	17.17	11.66	12.98	21.19	20.89
Calaveras	21.15	17.09	17.18	28.58	24.04
Sunol	17.39	15.02	14.98	24.37	20.49
Niles	15.61	12.53	14.28	23.10	19.62
Hetch Hetchy	31.71	32.83	25.78	52.23	34.43
Lake Eleanor	37.02	42.29	30.43	59.73	41.81
Moccasin	22.81	26.14	20.81	38.58	26.95

TABLE NO. 4

RESERVOIR STORAGE
(Exclusive of Hetch Hetchy Sources)

MILLION GALLONS

	1952-53		1953-54		1954-55		1955-56	
	Max. July 1	Min. Dec. 1	Max. July 1	Min. Feb. 11	Max. July 1	Min. Dec. 1	Max. Jan. 27	Min. Nov. 4
Calaveras	30,621	21,354	26,042	19,569	21,664	15,739	32,658	16,210
Crystal Springs	20,768	14,388	18,295	14,953	17,485	16,522	19,705	17,384
San Andres	4,493	4,391	5,911	4,394	5,740	5,561	6,055	5,886
Pilarcitos	757	476	800	546	834	556	975	169
Lake Merced	2,163	2,179	2,174	2,281	2,311	2,230	2,559	2,192
City Reservoirs	275	283	277	260	259	282	287	307
TOTALS	59,077	43,071	53,499	42,003	48,293	40,890	62,239	41,978

TABLE NO. 5

WATER DRAWN FROM HETCH HETCHY AND AUXILIARY SOURCES

MILLION GALLONS

	1952-53	1953-54	1954-55	1955-56
Hetch Hetchy Supply	21,632	32,878	39,966	33,083
Pleasanton Wells and Sunol Filters*	1,008	123	None	166
	22,640	33,001	39,966	33,249

*No water was received from Pleasanton Wells subsequent to April 1949

TABLE NO. 6

SOURCE OF WATER CONVEYED TO THE WEST SIDE OF SAN FRANCISCO BAY YEARLY AVERAGE, MILLION GALLONS DAILY

	1952-53	1953-54	1954-55	1955-56
Pleasanton Wells	None	None	None	None
Sunol Filters	2.7	0.3	None	0.5
Calaveras Reservoir	38.0	21.6	16.4	25.8
Hetch Hetchy Water Supply	59.2	89.9	105.0	85.5
Totals	99.9	111.8	121.4	111.8

TABLE NO. 7

WATER DELIVERED THROUGH PIPE LINES

Water Transported into San Francisco Consumption Area (1955-56)

San Andres 54" Pipe Line	27.7 M.G.D.
Baden-Merced Branch 30" P/L	7.7 " " "
Crystal Springs 44" P/L	9.1 " " "
" " 60" "	21.5 " " "
Sunset Supply 60" P/L	25.3 " " "
Total San Francisco Consumption Area	91.3 M.G.D.

Water Transported to storage:

Crystal Springs to San Andres	30.3 M.G.D.
Bay Division to Crystal Springs	89.2 M.G.D.

TABLE NO. 8

WATER DELIVERED
AT THE CONSUMERS METERS
SAN FRANCISCO DISTRICT

	1952-53	1953-54	1954-55	1955-56
Average Active Accounts	148,253	149,647	150,504	151,457
Number on June 30	149,145	150,149	150,860	152,053
Metered Delivery (M.C.F.)				
Residential	1,344.0	1,374.1	1,399.4	1,397.0
Com'l & Ind'l	1,940.1	1,955.2	1,939.5	1,961.5
Municipal - Actual	19.3	20.1	20.3	20.5
Municipal - Comparisons	238.5	223.8	257.1	255.2
Total (M.C.F.)	3,541.9	3,573.2	3,616.3	3,634.2
Average (M.G.D.)	72.8	73.4	74.3	74.7

SUBURBAN DISTRICT

	1952-53	1953-54	1954-55	1955-56
Average Active Accounts	759	751	740	731
Number on June 30	760	743	738	724
Metered Delivery (M.C.F.)				
Regular Rates	1,585.0	1,750.0	114.1	120.0
Civil Divisions for Resale	*	*	1,075.5	1,209.4
Private Utilities " "	*	*	869.7	924.4
Total (M.C.F.)	1,585.0	1,750.0	2,059.3	2,253.8
Average (M.G.D.)	32.6	36.0	42.3	46.3

TOTAL SYSTEM

Metered Delivery (M.C.F.)	5,126.9	5,323,2	5,675.6	5,888.0
Average (M.G.D.)	105.4	109.4	116.6	121.0

*Not listed separately.

TABLE NO. 9

AVERAGE DAILY CONSUMPTION SINCE 1865
CONSUMPTION IN MILLION GALLONS PER DAY

Venturi Meter Records

YEAR	M.G.D.	YEAR	M.G.D.	YEAR	M.G.D.	YEAR	M.G.D.
1865	2.4	1885	17.0	1905	34.9	1925	42.6
1870	6.0	1890	20.4	1910	35.6	1928	50.1
1875	11.7	1895	19.9	1915	42.6	1929	52.1
1880	12.7	1900	25.5	1920	36.2	1930	52.1

Note: At noon on March 3, 1930 the San Francisco Water Department acquired title to the operative properties of the Spring Valley Water Company

Year	San Francisco	Sub-urban	Total System	Max. Day	Min. Day	Max. Month	Min. Month
1930-31	49.2	3.1	52.3	66.7	41.3	57.8	47.0
1931-32	49.3	2.8	52.1	65.6	39.6	59.4	47.5
1932-33	46.4	2.7	49.1	60.4	39.9	54.3	44.6
1933-34	47.3	2.6	49.9	64.3	39.1	53.7	45.1
1934-35	48.1	2.4	50.5	65.4	41.3	58.1	46.2
1935-36	52.3	2.5	54.8	68.0	43.0	62.1	50.3
1936-37	55.1	3.4	58.5	70.7	45.7	63.8	51.8
1937-38	53.3	5.0	58.3	72.4	46.7	65.4	53.4
1938-39	56.9	6.4	63.3	84.6	48.5	77.5	54.8
1939-40	59.6	9.0	68.6	89.5	51.6	76.6	60.9
1940-41	60.7	7.3	68.0	90.0	52.0	77.9	60.6
1941-42	63.5	7.7	71.2	94.5	53.1	85.7	61.7
1942-43	69.2	8.6	77.8	106.9	60.2	92.3	68.6
1943-44	76.1	11.4	87.5	109.9	70.4	101.1	76.8
1944-45	79.0	17.9	96.9	134.9	74.7	116.5	85.2
1945-46	83.7	17.2	100.9	131.9	72.9	115.3	88.0
1946-47	83.3	18.6	101.9	135.6	76.5	117.0	86.2
1947-48	81.3	19.7	101.0	138.3	74.2	122.6	88.0
1948-49	83.3	19.9	103.2	138.3	73.3	124.4	86.4
1949-50	83.1	19.6	102.7	139.1	73.8	120.7	88.0
1950-51	82.8	23.0	105.8	147.7	77.3	126.1	88.6
1951-52	82.9	26.2	109.1	154.0	77.6	130.8	92.1
1952-53	88.5	29.9	118.4	166.8	83.7	140.2	99.4
1953-54	89.7	35.2	124.9	197.0	88.0	157.3	107.2
1954-55	91.1	44.6	135.7	190.0	92.5	166.4	110.3
1955-56	91.3	47.8	139.1	217.5	83.0	176.7	112.8

NOTE: Water Department deliveries for consumption in the major inhabited portion of the northerly 47 square miles of San Mateo County are included in the figures in column headed "San Francisco" and are not included in the figures in column headed "Surburban" in Table No.9.

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TABLE NO. 10

AVERAGE DAILY CONSUMPTION BY DISTRICTS

	GALLONS			
District	1955-56	1954-55	Increase + or Decrease -	% Incr. or Decrease
Forest Hill	836,442	792,077	+ 44,365	+ 5.6
Stanford Heights	6,795,661	10,520,773	-3,725,112	- 35.4
Sutro	5,027,664	1,595,973	+3,431,691	+215.0
Sunset	37,566,894	37,154,384	+ 412,510	+ 1.1
College Hill	8,295,145	8,229,962	+ 65,183	+ 0.8
University Mound	30,565,946	30,920,781	- 354,835	- 1.1
Merced Manor*	2,199,527	1,865,573	+ 333,954	+ 17.9
Total City	91,287,279	91,079,523	+ 207,756	+ 0.2
Suburban	47,809,341	44,597,677	+3,203,174	+ 7.2
Total Entire System	139,096,620	135,677,197	+3,410,930	+ 2.5

*Merced Manor consumption not measured directly. Any inaccuracies would reflect in suburban and College Hill consumption.

TABLE NO. 11

PEAK DAY CONSUMPTION BY DISTRICTS

	GALLONS		
District	1955-56	1954-55	1953-54
Forest Hill	1,904,000	1,335,000	1,327,000
Stanford Heights	11,950,000	14,306,000	15,673,000
Sutro	10,212,000	3,049,000	-
Sunset	55,247,000	47,969,000	50,560,000
College Hill	11,573,000	12,943,000	11,983,000
University Mound	42,401,000	39,527,000	41,916,000
Merced Manor	5,074,000	3,821,000	3,254,000
Total City	115,489,000	113,394,000	116,346,000
Suburban	102,054,000	83,705,000	80,647,000
Entire System	217,496,000	190,004,000	196,993,000

TABLE NO. 12

METERS IN SERVICE - SAN FRANCISCO
AS OF JUNE 30, 1956

CLASS OF CONSUMER	5/8"	3/4"	1"	$1\frac{1}{2}$"	2"	3"	4"	6"	8"	12"	TOTAL
REVENUE PRODUCING											
Commercial	20,468	992	2,206	2,364	3,748	8	40	285	298	1	30,410
Residential	121,250	530	1,094	262	17						123,153
Dock & Ships	138	9	33	48	94	2		1	3	2	330
TOTAL	141,856	1,531	3,333	2,674	3,859	10	40	286	301	3	153,893
NON-REVENUE PRODUCING											
Commercial	1,244	20	35	21	34	1	2	7	5		1,369
Residential	785		8								793
Dock & Ships	2				1						3
TOTAL	2,031	20	43	21	35	1	2	7	5		2,165
TOTAL METERS INSTALLED	143,887	1,551	3,376	2,695	3,894	11	42	293	306	3	156,058

Total Meters in Service as of June 30, 1956		
Less: Extra Meters in 936 Batteries - (2716 meters-936)	1,780	
Extra Meters in 33 consolidations (93 meters-33)	60	
Non-Revenue Meters (Temporarily shut off)	2,165	4,005
Number of Active Accounts as of June 30, 1956		152,053

NOTE: The above meter count includes 598 Automatic Sprinklers for fire purposes. At Dock and Shipping Office Portable meters used on hydrants as needed (not included in above) 11-$1\frac{1}{2}$"; 31-2" meters. At Union Plant of Bethlehem Shipbuilding Corp., 8-$1\frac{1}{2}$" meters.

PREVIOUS RECORDS:	1951-52	1952-53	1953-54	1954-55	1955-56
Total Meters	151,132	153,015	154,176	154,711	156,058
Increase	1,330	1,883	1,161	535	1,347
Idle Meters	2,166	2,169	2,301	2,059	2,165

TABLE NO. 13

METERS IN SERVICE - SUBURBAN DISTRICT
AS OF JUNE 30, 1956

CLASS OF CONSUMERS	5/8"	3/4"	1"	1½"	2"	4"	6"	8"	10"	TOTALS
REVENUE PRODUCING										
Regular Rates	474	22	41	21	281	19	85	53	2	998
Airport Use	11	3	6	7	20			6	2	55
TOTAL	485	25	47	28	301	19	85	59	4	1,053
NON-PRODUCING										
Under Regular Rates S/O	5				2					7
S.F. Intern'l Airport					4					4
TOTAL	5				6					11

Total Meters in service as of June 30, 1956		1,064
Less: Meters in excess of accounts	329	
Non-Revenue Producing Meters	11	340
Number of Active Suburban Accounts June 30, 1956		724

Note: The above includes 4 automatic sprinklers for fire purposes.

COMPARISON RECORD	5/8"	3/4"	1"	1½"	2"	4"	6"	8"	10"	TOTALS
Record June 30, 1953										
Revenue Producing	523	20	50	34	308	16	71	31	2	1,055
Non-Producing	13	1	1	1	9					25
TOTAL	536	21	51	35	317	16	71	31	2	1,080
Record June 30, 1954										
Revenue Producing	503	22	46	28	299	17	78	31	2	1,026
Non-Producing	15		1	7	18			6		47
TOTAL	518	22	47	35	317	17	78	37	2	1,073
Record June 30,1955										
Revenue Producing	507	23	42	33	304	18	82	47	4	1,060
Non-Producing	6			1	4					11
TOTAL	513	23	42	34	308	18	82	47	4	1,071

TABLE NO. 14

OFFICIAL METER TESTS

During Fiscal Year Ending June 30, 1956

PERCENTAGE OF VARIATION

												Number Tested	
Percentage		0	.2	.5	1	1.5	2	2.5	3	4	5	6	Total	Ratio
Fast				1									1	33.3%
Slow				1			1						2	66.7%
O.K.														
Total				2			1						3	100.0%
PREVIOUS TOTALS														
Year	1952	6		4	2	3	3		1	1		1	21	
	1953	4		1	5	1	1						12	
	1954	6	2	2	4	2	1	1	1				19	
	1955	1		4	3	1		1	1				11	

Refunds 1955-56 Account of over-registration - $0.00
Increases " " " " under-registration - $0.00

TABLE NO. 15

UNIT COST FOR METER MAINTENANCE

IN SAN FRANCISCO

Year	Meters in use	Total Cost	Cost per Meter	Labor Cost per Meter	Other Cost per Meter
1951-52	151,132	$107,952.22	0.71	0.323	0.391
1952-53	153,015	98,561.61	0.64	0.349	0.295
1953-54	154,176	163,556.72	1.06	0.394	0.667
1954-55	154,711	128,442.89	0.83	0.431	0.399
1955-56	156,058	133,630.88	0.86	0.510	0.346

TABLE NO. 16

UNIT COST OF METER INSTALLATION

IN SAN FRANCISCO

	1952-53	1953-54	1954-55	1955-56
Meters Set	1,959	1,851	1,853	1,925
Percent 3/4" and smaller	78.9	77.0	79.1	79.2
Labor	$ 6.01	$ 4.41	$ 4.37	$ 8.05
Supervision	0.30	0.61	0.83	0.32
Meter	35.82	30.40	27.88	22.73
Material	9.55	4.66	6.75	4.66
Equipment	0.45	0.22	0.17	0.19
Paving	1.44	1.35	1.49	1.44
Miscellaneous	1.00	0.16	0.17	- -
	$54.57	$41.81	$41.66	$37.39

TABLE NO. 17

UNIT COST OF SERVICE CONNECTIONS

IN SAN FRANCISCO

Revised to date See revised sheet attached.

	1952-53	1953-54	1954-55	1955-56
Services installed	2,745	2,809	2,818	2,352
Percent 3/4" installed	77.4	70.2	64.3	48.2
Labor	$29.94	$32.03	$16.46	$ 50.94
Supervision	1.24	3.69	2.93	1.80
Material	14.04	15.14	7.51	17.20
Equipment	3.29	3.35	1.67	4.26
Paving	10.38	9.12	3.42	15.98
Miscellaneous	5.10	0.67	0.37	-
	$63.99	$64.00	$32.36	$90.18

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TABLE NO. 15

UNIT COST FOR METER MAINTENANCE

IN SAN FRANCISCO

Year	Meters in use	Total Cost	Cost per Meter	Labor Cost per Meter	Other Cost per Meter
1951-52	151,132	$107,952.22	0.71	0.323	0.391
1952-53	153,015	98,561.61	0.64	0.349	0.295
1953-54	154,176	163,556.72	1.06	0.394	0.667
1954-55	154,711	128,442.89	0.83	0.431	0.399
1955-56	156,058	133,630.88	0.86	0.510	0.346

TABLE NO. 16

UNIT COST OF METER INSTALLATION

IN SAN FRANCISCO

	1952-53	1953-54	1954-55	1955-56
Meters Set	1,959	1,851	1,853	1,925
Percent 3/4" and smaller	78.9	77.0	79.1	79.2
Labor	$ 6.01	$ 4.41	$ 4.37	$ 8.05
Supervision	0.30	0.61	0.83	0.32
Meter	35.82	30.40	27.88	22.73
Material	9.55	4.66	6.75	4.66
Equipment	0.45	0.22	0.17	0.19
Paving	1.44	1.35	1.49	1.44
Miscellaneous	1.00	0.16	0.17	- -
	$54.57	$41.81	$41.66	$37.39

TABLE NO. 17

UNIT COST OF SERVICE CONNECTIONS

IN SAN FRANCISCO

	1952-53	1953-54	1954-55	1955-56	
Services installed	2,745	2,809	2,818	2,352	
Percent 3/4" installed	78.5	70.2	64.3	48.2	
Labor	$29.94	$32.03	$38.27	$ 50.94	+12.67
Supervision	1.24	3.69	6.71	1.80	-4.91
Material	14.04	15.14	14.01	17.20	+ 3.19
Equipment	3.29	3.35	3.76	4.26	+0.59
Paving	10.38	9.12	10.81	15.98	+5.17
Miscellaneous	5.10	0.67	0.54	-	-0.54
	$63.99	$64.00	$74.10	$90.18	+16.[illegible]

TABLE NO. 18

STREET MAIN TAPS AND SERVICE CONNECTIONS RECORD

San Francisco District June 30, 1956

TAPS ON STREET MAINS

	Wharf	3/4"	1"	1½"	2"	3"	4"	6"	8"	12"	16"	TOTALS
June 30, 1955	295	160,692	6,309	3,721	2,603	803	460	414	321	16	2	175,636
ADD 1955-56	6	-15	866	114	53	18	11	22	11	1	0	1,087
June 30, 1956	301	160,677	7,175	3,835	2,656	821	471	436	332	17	2	176,723

SERVICE CONNECTIONS

ADD	Services connected to street mains, as above	176,723
	"Distributors", being one or more add'l meter con. to service pipes	15,087
	TOTAL connections of record	191,810
DEDUCT	Disconnected services	37,592
	Net metered live services consisting of 153,893 active meters; less 1,840 extra meters in batteries, plus 2,165 services tempy S/O	154,218

Previous Records:	1952-53	1953-54	1954-55
Active	150,846	151,875	152,652
Shut-Off	2,169	2,301	2,059
TOTALS	153,015	154,176	154,711
Less extra battery meters	1,701	1,726	1,792
NET	151,314	152,450	152,919

SERVICE INSTALLATIONS

Fiscal Year 1955-56

DISTRICT	Taps	Distributors	Totals
Richmond District	45	7	52
Sunset "	294	83	377
North Market & Western Add.	142	65	207
South Market & Twin Peaks	604	220	824
Waterfront	6	0	6
TOTALS	1,091	375	1,466

Previous Years	Taps	Distributors	Totals
1952-53	1,380	271	1,651
1953-54	1,132	276	1,408
1954-55	1,234	327	1,561

AUTOMATIC SPRINKLER INSTALLATIONS

October 26, 1932 to June 30, 1956

SIZE	1932-53	1953-54	1954-55	1955-56	Total	Installed prior to 10/26/32	GRAND TOTAL
4-inch	28	4	2	3	37		
6-inch	151	18	12	18	199		
8-inch	204	7	11	10	232		
12-inch	9	0	0	0	9	163	
TOTALS	392	29	25	31	477	163	640

TABLE NO. 19

COMPARATIVE PUMPING COSTS

SAN ANDRES PUMP	1952-53	1953-54	1954-55	1955-56
Water Pumped, Gallons	13,979,387,000	12,742,790,000	12,998,928,000	11,103,656,000
Electric Power, KWH	14,022,400	12,876,800	13,180,800	11,315,200
Power Cost	$ 113,537.06	$ 108,914.72	$ 112,689.18	$ 85,272.97
Labor Cost	22,522.58	22,537.93	25,926.65	27,847.94
Miscellaneous	2,565.20	1,564.98	3,431.13	708.21
Totals	$ 138,624.84	$ 133,017.63	$ 142,046.96	$ 113,829.12
Cost per Million Gallons	$ 9.92	$ 10.44	$ 10.93	$ 10.25
" " " "per ft.of lift	0.0450	0.0474	0.0495	0.0466
CENTRAL PUMP				
Water Pumped, Gallons	4,285,260,000	4,388,500,000	4,419,000,000	2,864,862,000
Gas Burned, Cu.Ft.	191,048,000	193,304,000	191,657,000	102,016,000
Oil Burned, Gallons	None	None	3,027	None
Electric Power, KWH	153,600	141,600	169,200	1,750,800
Fuel & Power Cost	$ 65,823.57	$ 67,418.97	$ 69,310.37	$ 56,876.01
Labor Cost	60,395.22	68,296.27	72,283.84	44,902.24
Miscellaneous	1,075.08	159.02	490.84	1,591.76
Totals	$ 127,293.87	$ 135,874.26	$ 142,085.05	$ 103,370.01
Cost per Million Gallons	$ 29.71	$ 30.96	$ 32.15	$ 36.08
LAKE MERCED PUMP				
Water Pumped, Gallons			2,549,600,000	7,347,900,000
Electric Power, KWH			2,280,000	7,914,000
Power Cost			$ 25,200.98	$ 65,735.68
Labor Cost			1,551.11	17,100.44
Miscellaneous			248.11	630.14
Totals			$ 27,200.20	$ 83,466.26
Cost per Million Gallons			$ 10.59	$ 11.36

TABLE NO. 20
RECORD OF BAD WATER COMPLAINTS

Comparisons of Complaints
received during Fiscal Years 1952-53 to 1955-56
with reference to the districts involved

	1952-53	1953-54	1954-55	1955-56
Stanford Heights	57	40	19	44
Sutro Reservoir	-	-	17	70
Sunset Reservoir	116	133	118	262
Potrero Heights	0	0	0	1
Sunset Lombard	0	3	0	0
College Hill	28	29	25	66
Merced Manor	11	7	7	12
University Mound	19	32	16	56
Forest Hill	4	2	0	2
Presidio Heights	7	1	0	10
TOTALS	242	247	202	523

TABLE NO. 21
RECORD OF NO WATER, NOISE, ETC. COMPLAINTS
Fiscal Years 1952-53 to 1955-56

(a) Those for which the Department was responsible:

Serv. or main broken	34	30	35	62
S/O at main or meter	12	30	9	8
District temp'y S/D	3	33	6	0
TOTALS	49	93	50	70
Percentage	10.9%	17.0%	8.5%	11.9%

(b) Those for which the Consumers were responsible:

Choked House Pipes	98	54	104	166
House Valve Closed	56	73	71	43
" Valve out of Order	67	98	89	100
House Pipe Broken	8	17	19	42
False Reports	172	213	258	169
TOTALS	401	455	541	520
Percentage	89.1%	83.0%	91.5%	88.1%

TOTAL NO WATER	450	548	591	590
Noise	-	-	60	105
Miscellaneous	-	-	251	132
Large Bill Complaints	8,859	9,286	8,407	8,489

TABLE NO. 22

COMPLAINTS - POOR SUPPLY

	1952-53	1953-54	1954-55	1955-56
Meter Only:				
Too small	13	15	23	13
Service Only:				
Adequate	148	84	110	163
Inadequate	597	599	835	863
Meter and Service:				
Too small	122	165	289	242
Housepiping:				
Note: (Includes valve unless valve only is involved)				
Adequate	13	3	1	16
Inadequate	749	788	1088	1109
Valves Only:				
Adequate	--	--	--	--
Inadequate	122	71	128	46
	909	918	1,257	1,191
% Inadequate				
Service	79.3	84.2	89.4	92.7
Housepipe	82.5	86.0	86.6	91.5

TABLE NO. 23

LENGTH OF VARIOUS SIZES OF TRANSMISSION MAINS IN FEET

	16"	22"	28"	30"	33"	36"	37"	39"	42"	44"	48"	54"	57"
Alameda	Sub 790	Sub 13,604				122,934							
Crystal Springs No. 1										89,341		358	
Crystal Springs No. 2				669					100			16,757	
Crystal Springs No. 3						54					69		
San Andres No. 1**										26,850			
San Andres No. 2												63,344	
Baden-Merced				31,890		2,260	1,560						
Pleasanton				27,432									
Niles-Irvington										15,600			
Bay Division No. 1									Sub 3,161				Sub 6,821
Bay Division No. 2									250			6,066	
Bay Division No. 3													
Calaveras										30,570	1,045		
Palo Alto						28,049							
Sunset Pipeline										419		337	
Pilarcitos Aqueduct			7,480		169	648				730			
Lake Merced Pumps Disch.						8,498							
Stone Dam Aqueduct				501				1,814		2,106	2,894		
Crystal Springs Aqueduct										30	916	492	
Crosstown						12,130				13,765			
TOTAL	790	13,604	7,480	60,492	169	174,573	1,560	1,814	3,511	179,411	4,924	87,354	6,821

TABLE NO. 23 (Cont'd)

LENGTH OF VARIOUS SIZES OF TRANSMISSION MAINS IN FEET (Cont'd)

	60"	61"	62"	66"	69"	72"	76"	78"	79"	90"	Total Feet	Miles
Alameda											137,328	26.01
Crystal Springs No. 1											89,699	16.99
Crystal Springs No. 2	83,561							650			101,737	19.27
Crystal Springs No. 3	259								7,344		7,726	1.46
San Andres No. 1**											26,850	5.08
San Andres No. 2											63,344	12.00
Baden-Merced											35,710	6.76
Pleasanton											27,432	5.19
Niles-Irvington											15,600	2.95
Bay Division No. 1	102,131										112,113	21.23
Bay Division No. 2			26,094	78,856			3,867				115,133	21.81
Bay Division No. 3					Spls	127,103 5,725	Spls	43,184 1,908		917 *271	179,108	33.94
Alameda Cr. Siphon					2,942	93				2,972	6,007	1.14
Calaveras											31,615	5.99
Palo Alto											28,049	5.31
Sunset Pipeline-Part	64,323	24,688									89,767	17.00
Pilarcitos Aqueduct											9,027	1.71
Lake Merced Pumps Disch.											8,498	1.61
Stone Dam Aqueduct											7,315	1.39
Crystal Springs Aqued.				238		603					2,279	.43
Crosstown											25,895	4.90
TOTALS	250,274	24,688	26,094	79,094	2,942	133,524	3,867	45,742	7,344	4,160	1,120,232	212.17

*Tapers, Valves and Meters

**College Hill Branch discontinued June 1, 1955 - 43,100 feet = 8.16 miles

TABLE NO. 24

PIPE RECORDS
CITY DISTRIBUTION SYSTEM

Wrought Iron and Steel Pipe

Size	Total Pipe in Ground July 1, 1955	Pipe Laid 1955-56	Removed or Abandoned 1955-56	Total Pipe in Ground June 30, 1956
3/4"	12,073'	0'	106'	11,967'
1"	35,969	0	245	35,724
1¼"	3,928	0	200	3,728
1½"	161,750	256	4,230	157,776
2"	255,039	63	15,558	239,544
3"	27,392	0	0	27,392
4"	3,886	0	0	3,886
5"	804	0	0	804
6"	3,809	0	0	3,809
12"	6,555	0	0	6,555
13"	456	0	0	456
16"	25,587	0	0	25,587
20"	65,417	0	0	65,417
22"	25,309	0	0	25,309
23½"	9,087	0	0	9,087
24"	48,092	0	0	48,092
30"	42,880	0	0	42,880
33"	2,409	0	0	2,409
36"	56,864	0	0	56,864
37½"	8,896	0	0	8,896
44"	22,974	0	0	22,974
48"	11,504	0	0	11,504
60"	26,216	0	0	26,216
Total W.I & S.	856,896'	319'	20,339'	836,876'

Transite Pipe

Size	Total Pipe in Ground July 1, 1955	Pipe Laid 1955-56	Removed or Abandoned 1955-56	Total Pipe in Ground June 30, 1956
6"	17,305'	0'	0'	17,305'
8"	23,172'	1,700	0	24,872
Total Transite	40,477'	1,700'	0'	42,177'

TABLE NO. 24 (Cont'd)

Cast Iron Pipe

Size	Total Pipe in Ground July 1, 1955	Pipe Laid 1955-56	Removed or Abandoned 1955-56	Total Pipe in Ground June 30, 1956
2"	26,289'	592'	0'	26,881'
3"	60,899	0	300	60,599
4"	500,133	3,208	1,166	502,175
6"	1,773,035	30,615	394	1,803,256
8"	1,554,459	16,997	180	1,571,276
10"	6,100	0	0	6,100
12"	506,957	9,761	0	516,718
16"	311,258	4,543	2,550	313,251
20"	22,642	0	0	22,642
22"	19,058	0	0	19,058
24"	52,173	0	0	52,173
30"	5,297	0	0	5,297
Total C.I.	4,838,300'	65,716'	4,590'	4,899,426'
Total All	5,735,673'	67,735'	24,929'	5,778,479'
Miles	1,086.302	12.828	4.721	1,094.409

TABLE NO. 25

VALVE RECORDS

CITY DISTRIBUTION SYSTEM

Gates		Service Gates		Blowoffs		Air Valves		Check Valves	
2"	138	3"	478	3/4"	9	3/4"	71	1½"	7
3"	249	4"	520	1"	42	1"	114	2"	10
4"	1,295	6"	353	1½"	267	1½"	448	3"	1
6"	4,155	8"	289	2"	900	2"	281	4"	8
8"	3,887	12"	13	3"	214	3"	5	6"	27
10"	6			4"	478	4"	0	8"	26
12"	880			6"	204	6"	12	12"	3
16"	463			8"	124	8"	281	16"	2
20"	24			12"	20				
22"	20			16"	3				
24"	63								
30"	23								
36"	20								
37½"	2								
42"	3								
48"	1								
Total	11,229		1,653		2,261		1,212		84

= 15,143 gates

Stop Cocks	
5/8"	18
3/4"	140
1"	200
1½"	971
2"	2,671
	4,000

11,229
1,653
2,261
15,143 Gates & Blowoffs
1,212 air valves
84 Check valves

Total

16,439
4,000 stop cocks
20,439 total

Total 20,439 valves

TABLE NO. 26
CONTRACT DATA 1955-56

Contract No.	Title of Contract	Division	No. of Bidders	Contractor	Date of Award	Date of Completion	% Complete 6-30-56	Bid Price	Contract Cost to 6-30-56
672	Bypass Guadalupe Trestle	Peninsula	4	M & K Corp.	4/11/55	- - -	83	$ 398,387.48	328,661.61
673	Protective Levee at West end of Bay Crossing P/L Bridge	Peninsula	1	Associated Dredging Co.	6/1/54	9/15/55	100	15,937.00	17,607.23
680	Sunset Pipeline-San Andres Branch	Peninsula	8	McGuire & Hester	2/21/55	10/4/55	100	313,310.00	379,668.36
706	4" & 8" CIM in Alemany Housing Project	CDD	6	E.J.Treacy	11/22/54	7/22/55	100	8,151.50	7,524.90
707	San Andres Outlet No.1 & Crystal Springs Fluoride Treatment Plant	Peninsula	7	C.J.Collins	2/7/55	7/8/55	100	33,081.60	59,613.75
710	6" & 8" CIM in Griffith St. & Fitzgerald Ave. & Harvard-Bacon to Burrows	CDD	5	F.T.Fairey	2/21/55	9/7/55	100	4,846.85	4,394.12
711	6" & 8" CIM in Leland Ave. Delta to Bayshore	CDD	4	S.F.W.D.	4/27/55	6/29/55	100	16,858.40	14,776.90
712	6",8",12" & 16" CIM in portions of Midtown Terraces Sub. #3 & 4	CDD	6	F.T.Fairey	3/14/55	7/6/55	100	46,761.15	46,284.27
713	12" CIM in Oxford & Felton St. bet. Silver Ave. & Cambridge St.	CDD	4	Michael Murphy, Jr.	5/16/55	7/19/55	100	16,331.00	15,170.99
714	6" CIM in Chestnut St. between Fillmore & Laguna Sts.	CDD	6	E.J.Treacy	3/7/55	10/27/55	100	7,349.50	6,333.29
715	8" CIM in Ingalls St., Fitzgerald to Egbert Aves., & in Schwerin St. so. to Sunnydale	CDD	3	Michael Murphy, Jr.	5/9/55	7/6/55	100	10,535.05	8,672.86
716	Crocker-Amazon & McLaren Park Pump Stations	CDD	3	C.J.Collins	12/5/55	3/26/56	100	29,664.96	35,340.82
717	Electrical Alterations at Sunol Headquarters	Alameda	5	Mahoney Electric Co.	10/17/55	1/26/56	100	3,333.00	5,410.22
718	McLaren Park Tank	CDD	2	Chicago Bridge & Iron Co.	8/29/55	3/27/56	100	55,152.55	59,868.93
719	Annual Paving Contract for Streets & Sidewalk Openings 1955-56	CDD	2	Pacific Pavement Co. Ltd.	5/31/55	6/30/56	100	122,500.00	113,631.90

TABLE NO. 26 (Cont'd)
CONTRACT DATA 1955-56

Contract No.	Title of Contract	Division	No. of Bidders	Contractor	Date of Award	Date of Completion	% Complete 6-30-56	Bid Price	Contract Cost to 6-30-56
720	16" CIM in Marview Way & Palo Alto Ave., Aquavista Way to Summit Reservoir	CDD	4	Associated Pipelines, Inc.	7/18/55	12/2/55	100	26.575.30	26,547.84
721	6" & 8" CIM in Oakdale, Quint to Phelps Sts., & in Missouri, Sierra to 22nd Sts.	CDD	3	Michael Murphy, Jr.	5/9/55	7/14/55	100	6,412.70	3,589.15
723	6", 8" & 16" CIM in Second portion of Midtown Subd. #3 & 4	CDD	4	F.T.Fairey	7/5/55	9/29/55	100	57,572.10	46,706.10
724	6" & 8" CIM in 25th St., Iowa to Tennessee & in Stanley & Bright Sts.	CDD	4	Michael Murphy, Jr.	6/13/55	10/17/55	100	8,693.90	7,645.58
725	6" CIM in 43rd Ave. bet. Judah & Lawton Sts.	CDD	4	Associated Pipelines, Inc.	6/13/55	8/1/55	100	$ 11,263.10	$ 9,862.24
726	Reconditioning 16" Steel Main from Grafton & Granada to Harold & Bruce Aves.	CDD	1	Pipe Linings, Inc.	8/1/55	9/15/55	100	9,880.00	9,852.50
727	6" & 8" CIM in Charter Oak Ave. Helena St., Parnassus Ave. & Shrader St.	CDD	4	Associated Pipelines, Inc.	8/1/55	11/21/55	100	14,220.90	11,893.76
728	4", 6" & 8" CIM in Mangles, Nordhoff to Hamerton & in Baden, Mangles to Joost	CDD	5	F.T.Fairey	7/25/55	10/28/55	100	9,477.50	9,307.77
729	6" & 8" CIM in Dwight, Bright & Hudson Streets	CDD	5	S.F.W.D.	8/22/55	3/26/56	100	10,713.50	8,413.48
731	12" CIM in California St. bet. 4th and 18th Avenues	CDD	5	Associated Pipelines, Inc.	9/26/55	1/19/56	100	45,783.00	46,470.58
732	6" & 8" CIM in Winfield, Coso, Stoneman, Manchester, Ripley and Alabama Sts.	CDD	2	Michael Murphy, Jr.	9/26/55	11/22/55	100	16,522.50	17,486.35
733	Gathering & Delivering Walnut Crop - Sunol, 1955	Alameda	1	John Helzer	9/6/55	12/3/55	100	8,120.00	4,727.05
734	Constr. of Hillsborough Tunnel for Crystal Springs & Sunset Supply Lines	Peninsula	5	Peter Kiewit Sons' Co.	10/24/55	- - -	20	1,366,830.50	273,365.00

TABLE NO. 26 (Cont'd)
CONTRACT DATA 1955-56

Contract No.	Title of Contract	Division	No. of Bidders	Contractor	Date of Award	Date of Completion	% Complete 6-30-56	Bid Price	Contract Cost to 6-30-56
735	6" & 8" CIM in Fillmore, North Point, Brunswich Sts., and the Embarcadero	CDD	5	F.T.Fairey	10/10/55	1/13/56	100	$ 27,770.00	$ 27,013.22
737	6" CIM in Malimo Drive north of Myra Way	CDD	3	S. F. W.D.	10/31/55	6/27/56	100	3,259.50	2,874.70
738	Electrical Alterations, Peninsula Division Headquarters	Peninsula	3	Mahoney Elec. Co.	2/27/56	- - -	99	9,698.00	9,800.00
739	6",8" & 12" CIM in Panorama Terrace No. 1	CDD	4	F.T.Fairey	11/21/55	- - -	80	31,308.25	25,000.00
740	Roofing & Fencing Francisco St. Reservoir	CDD	5	Roy Madsen	12/12/55	3/13/56	100	24,369.00	26,863.65
741	Reconditioning Portions of Bay Division P/L No. 1 in San Mateo County	Peninsula	2	Pipe Linings, Inc.	11/28/55	3/9/56	100	85,425.00	91,338.91
742	Excavation & Embankment for the Sunset Reservoir-South Basin	CDD	7	Piombo Constru. Co.	2/14/56	- - -	14	758,070.00	106,000.00
743	6" & 8" CIM in Dalewood Way East of Landsdale & in Marin St., Michigan to Maryland	CDD	4	F.T.Fairey	11/21/55	3/12/56	100	7,903.25	6,536.36
744	12" CIM in 8th Ave., bet. California & Fulton Sts. & in Calif. St., bet. 23rd & 29th Aves.	CDD	4	Michael Murphy, Jr.	12/12/55	- - -	0	63,107.50	0
745	2" & 6" CIM in Thrift St. bet. Plymouth Ave. & Summit St., Alpha St. bet. Wilde & Tucker	CDD	4	S.F.W.D.	12/27/55	- - -	0	$ 8,458.25	$ 0
746	6" & 8" CIM in Anderson, Ellsworth, Gates, Folsom, Marsilly, Chenery & Arlington Sts.	CDD	4	Michael Murphy, Jr.	12/27/55	3/30/56	100	32,634.75	35,330.91
747	6" & 8" CIM in Baker, Broderick, Clayton & Hayes Streets	CDD	4	S.F.W.D.	1/16/56	3/7/56	100	22,704.00	13,233.04
748	6" CIM in Larkin St. bet. Chestnut & Filbert Sts.	CDD	4	F.T.Fairey	1/30/56	3/15/56	100	9,644.00	8,684.24

TABLE NO. 26 (Cont'd)
CONTRACT DATA 1955-56

Contract No.	Title of Contract	Division	No. of Bidders	Contractor	Date of Award	Date of Completion	% Complete 6-30-56	Bid Price	Contract Cost to 6-30-56
749	6" & 8" CIM in Montcalm, Brewster, Rutledge, Macedonia & Franconia Streets	CDD	4	Associated Pipelines, Inc.	2/27/56	5/2/56	100	11,675.00	9,625.19
751	8" Transite Main to Palace of the Legion of Honor	CDD	3	Michael Murphy, Jr.	3/26/56	6/14/56	100	7,984.00	7,677.29
752	6" & 8" CIM in Lyon, Broderick, Divisadero, Bay Sts. & Pacific Avenue	CDD	4	S.F.W.D.	4/9/56	6/27/56	100	42,873.00	34,755.69
753	Replacement of 1½" & 2" Mains with 4" & 6" CIM in San Benito Way, 4th & 41st Avenues	CDD	3	Michael Murphy, Jr.	4/2/56	5/15/56	100	15,976.00	14,450.17
754	Automatic Sprinkler System 425 Mason Street	General	2	Allan Automatic Sprinkler Corp.	2/27/56	5/15/56	100	$ 2,485.00	$ 3,043.29
755	6" CIM in Euclid & 9th Aves., replacement of 1½" & 2" Mains	CDD	3	Michael Murphy, Jr.	4/16/56	6/1/56	100	15,370.00	13,891.53
756	4" & 8" CIM in Greenwich, Lombard & Hyde Sts.	CDD	3	F.T.Fairey	3/19/56	5/9/56	100	13,130.00	12,336.50
758	6" CIM in Drake St., Prague St. to Baltimore Way	CDD	3	F.T.Fairey	4/16/56	6/8/56	100	8,654,50	7,995.24
759	Re-roofing Potrero Heights Reservoir	CDD	3	H.E. Rahlmann	5/7/56	6/13/56	100	4,027.00	4,118.43
760	8" CIM in Chicago Way, Naylor St. to So. Hill Blvd.	CDD	3	S.F.W.D.	6/4/56	- - -	0	5,299.25	0
762	6" CIM in Campbell Ave. & Somerset Street	CDD	2	Michael Murphy, Jr.	6/18/56	- - -	0	4,855.75	0
763	6" CIM in Foerster St., Los Palmos Dr. to Teresita Blvd.	CDD	3	Michael Murphy, Jr.	6/18/56	- - -	0	6,885.40	0
764	Coating Exterior of Water Dept. Bldg., 425 Mason St.	General	3	Fulton Painting Co.	6/25/56	- - -	0	4,985.00	0

ORGANIZATION AND PERSONNEL

G. W. Pracy	General Manager and Chief Engineer
G. D. Burr	Assistant General Manager and Chief Enginner

WATER PRODUCTION AND ENGINEERING

H. C. Medbery	Engineer of Design and Water Production
C. A. Lauenstein	Construction Engineer - Special Construction
W. A. Yount (Deceased May 11, 1956)	Superintendent Alameda Division
R. L. Borame	Acting Superintendent Alameda Division
G. J. Davis (Retired May 31, 1956)	Superintendent Peninsula Division
J. E. O'Marie	Acting Superintendent Peninsula Division
G. E. Fanning	Photographer

CITY DISTRIBUTION

O. G. Goldman	Superintendent City Distribution
S. M. Tatarian*	Assistant Superintendent City Distribution
A. G. Zecher*	General Foreman City Pipe System
J. P. Curto	General Foreman Services and Meters
M. C. Simon	Head Clerk
R. W. Tullis**	Superintendent of Machine Shop
P. L. Sebanc	Foreman Meter Shop

WATER PURIFICATION

H. W. Tracy	Acting Engineer of Water Purification
H. L. Fruitman (Deceased May 25, 1956)	Senior Water Chemist

WATER SALES

J. J. Lyons	Manager, Water Sales Division
J. W. Cooper	Assistant Manager, Water Sales Division
J. J. Hennessy	Chief Clerk Collections
K. R. Fahy	Chief Clerk Consumers' Accounts
E. R. Benninger	Head Clerk Water Sales Division
C. C. Clark	Claims Representative
E. L. Jimenez	Assistant Claims Representative
F. Lennon	Head Clerk Adjusting Division
T. S. Szeghy	Head Clerk Consumers' Accounts
C. P. Hynes	Head Clerk Service and Supply
F. B. Peterson	Head Clerk Closing Bills
J. P. Manning	Head Clerk Docks and Shipping
A. J. Ute	Chief Water Service Inspector

LANDS AND AGRICULTURE

J. G. Brucato	Superintendent Agricultural Division
F. Steiner	Assistant Superintendent Agricultural Division

ACCOUNTS

E. J. White (Retired February 29, 1956)	Senior Accountant
Z. H. Taylor	Senior Accountant
J. I. Reid	Accountant

* S. M. Tatarian left the Department, September 15, 1955;
A. G. Zecher Acting Assistant for balance of year;
K. R. Boyd Acting as General Foreman City Pipe System.

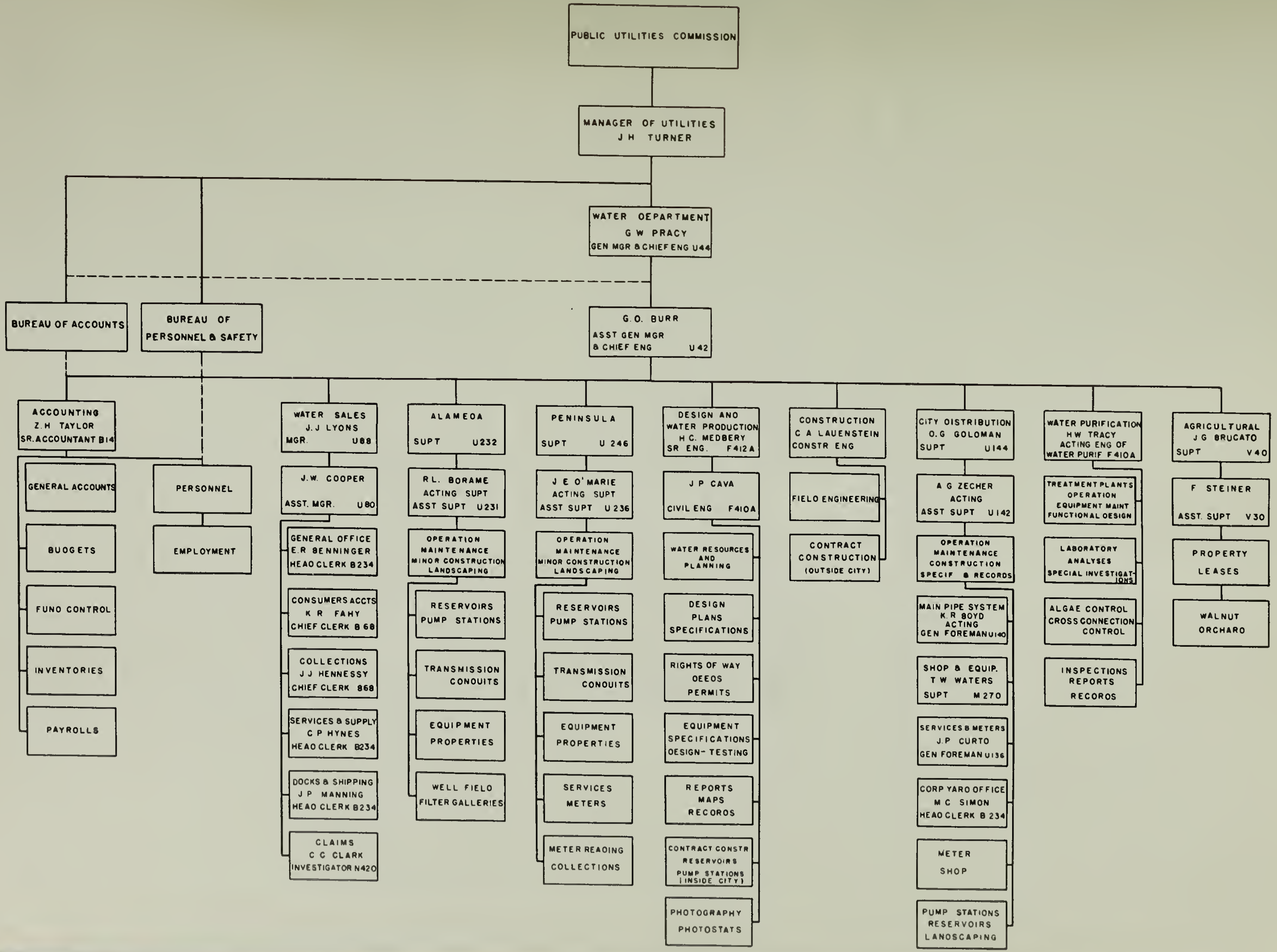
** R. W. Tullis retired July 31, 1955; T. U. Waters appointed Superintendent of Machine Shop.

WATER DEPARTMENT ORGANIZATIO

WATER DEPARTMENT ORGANIZATION CHART

PUBLIC UTILITIES COMMISSION — CITY & COUNTY OF SAN FRANCISCO

AS OF JUNE 30,1956


PUBLIC UTILITIES COMMISSION
MANAGER OF UTILITIES J H TURNER
WATER DEPARTMENT G W PRACY GEN MGR & CHIEF ENG U44
BUREAU OF ACCOUNTS
BUREAU OF PERSONNEL & SAFETY
G.O. BURR ASST GEN MGR & CHIEF ENG U42
ACCOUNTING Z.H TAYLOR SR.ACCOUNTANT B14
GENERAL ACCOUNTS
BUDGETS
FUND CONTROL
INVENTORIES
PAYROLLS
PERSONNEL
EMPLOYMENT
WATER SALES J.J LYONS MGR. U88
J.W. COOPER ASST. MGR. U80
GENERAL OFFICE E.R BENNINGER HEAD CLERK B234
CONSUMERS ACCTS K R FAHY CHIEF CLERK B 68
COLLECTIONS J J HENNESSY CHIEF CLERK B68
SERVICES & SUPPLY C P HYNES HEAD CLERK B234
DOCKS & SHIPPING J P MANNING HEAD CLERK B234
CLAIMS C C CLARK INVESTIGATOR N420
ALAMEDA SUPT U232
R.L. BORAME ACTING SUPT ASST SUPT U231
OPERATION MAINTENANCE MINOR CONSTRUCTION LANDSCAPING
RESERVOIRS PUMP STATIONS
TRANSMISSION CONDUITS
EQUIPMENT PROPERTIES
WELL FIELD FILTER GALLERIES
PENINSULA SUPT U 246
J E O'MARIE ACTING SUPT ASST SUPT U 236
OPERATION MAINTENANCE MINOR CONSTRUCTION LANDSCAPING
RESERVOIRS PUMP STATIONS
TRANSMISSION CONDUITS
EQUIPMENT PROPERTIES
SERVICES METERS
METER READING COLLECTIONS
DESIGN AND WATER PRODUCTION H C. MEDBERY SR ENG. F412A
J P CAVA CIVIL ENG F410A
WATER RESOURCES AND PLANNING
DESIGN PLANS SPECIFICATIONS
RIGHTS OF WAY DEEDS PERMITS
EQUIPMENT SPECIFICATIONS DESIGN- TESTING
REPORTS MAPS RECORDS
CONTRACT CONSTR RESERVOIRS PUMP STATIONS (INSIDE CITY)
PHOTOGRAPHY PHOTOSTATS
CONSTRUCTION C A LAUENSTEIN CONSTR ENG
FIELD ENGINEERING
CONTRACT CONSTRUCTION (OUTSIDE CITY)
CITY DISTRIBUTION O.G GOLOMAN SUPT U144
A G ZECHER ACTING ASST SUPT U142
OPERATION MAINTENANCE CONSTRUCTION SPECIF & RECORDS
MAIN PIPE SYSTEM K R BOYD ACTING GEN FOREMAN U140
SHOP & EQUIP. T W WATERS SUPT M270
SERVICES & METERS J.P CURTO GEN FOREMAN U136
CORP YARD OFFICE M C SIMON HEAD CLERK B 234
METER SHOP
PUMP STATIONS RESERVOIRS LANDSCAPING
WATER PURIFICATION H W TRACY ACTING ENG OF WATER PURIF F410A
TREATMENT PLANTS OPERATION EQUIPMENT MAINT FUNCTIONAL DESIGN
LABORATORY ANALYSES SPECIAL INVESTIGATIONS
ALGAE CONTROL CROSS CONNECTION CONTROL
INSPECTIONS REPORTS RECORDS
AGRICULTURAL J G BRUCATO SUPT V40
F STEINER ASST. SUPT V30
PROPERTY LEASES
WALNUT ORCHARD

RETIRED

1955 - 1956

During the past fiscal year, the following employees were retired from service and recognition is given to their faithful service in the organization:

Employee	Classification	Years' Service
George J. Davis	Superintendent-Peninsula	26
Alyse G. Egan	General Clerk	25
Perry Jones	Junior Operating Engineer	26
Edward J. White	Senior Accountant	26

IN MEMORIAM

George Howard	December 8, 1955	25
James A. Hourigan	December 28, 1955	17
Imelda Whitehead	April 12, 1956	26
Walter A. Yount	May 11, 1956	26
Harold Fruitman	May 25, 1956	22
John D. Reeves	June 12, 1956	22